Chapter Five

Ethics in Financial Markets

Anything that can be owned can be traded, and if trading in something is frequent, a market probably exists for that purpose. This holds true not only for commodities and valuable objects, such as pork bellies and French Impressionist paintings, but also for financial instruments of all kinds. However, unlike pork bellies, which can be carved up and packaged only in limited ways, financial instruments can take a wide variety of forms for trade in many different markets. With puts and calls, swaps and strips, and a host of other colorfully named instruments, the possibilities for trading in financial markets are limited only by human inventiveness and the constraints of law—which may often be gotten around with even more inventiveness.

The broad aim of financial market regulation is to secure "fair and orderly markets" or "just and equitable principles of trade." These expressions, which are standard in securities law and market rules, combine the economic value of efficiency with an ethical concern for fairness or equity, thereby giving rise to the familiar equity/efficiency trade-off. When applied to markets, the concepts of fairness, justice, and equity (which are roughly synonyms) serve mainly to forbid fraud and manipulation, the violation of certain rights, and the exploitation of asymmetries in such matters as information and bargaining power. Prohibitions of unfair market practices are designed to protect both market participants and the integrity of markets themselves, which cannot function properly when they lack fairness.

In addition to an examination of what constitutes fairness in markets, this chapter examines three specific areas where unfairness is often alleged. These are insider trading, hostile takeovers, and financial engineering. Although insider trading is illegal and diligently prosecuted, the ethical case against it

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is surprisingly difficult to make, and some economists and legal theorists object to the legal prohibition against it. Hostile takeovers are generally legal, though some think them unseemly, but they must still be conducted according to rules that prevent unfair advantage taking. Tender offers, which are commonly used to mount a takeover, can be coercive if, for example, shareholders must decide quickly without adequate information. The idea that a change of ownership can occur in a "market for corporate control" also raises questions about whose interest ought to be considered in takeovers. Financial engineering is a broad term for many innovations, including derivatives of various kinds and so-called high-frequency trading. Although the innovative products from financial engineering have great potential for improving people's lives, their destructive potential must be carefully considered.

Fairness in Markets

Financial markets require rules to function well, and much of the necessary regulatory framework is provided by law. In the United States, the Securities Act of 1933 and the Securities Exchange Act of 1934, with their many amendments, and the rules set by the Securities and Exchange Commission (SEC) constitute the main regulatory framework for markets in securities. In addition, financial investment institutions, such as banks, mutual funds, pension funds, and insurance companies, are governed by industry-specific legislation, as well as by industry self-regulation, including the rules of organized exchanges, such as the New York Stock Exchange.

The main aim of financial market regulation is to ensure both *fairness* and *efficiency*. The charge given to the SEC by the 1934 Securities Exchange Act is "to maintain fair and orderly markets." Orderliness in markets is commonly understood as stability, predictability, and ease of operation, as well as efficiency in the economic sense. Despite their differences, fairness and efficiency are linked. First, fairness is essential to efficiency for the reason that markets can be efficient only when people have confidence that they will be treated fairly. Unfair markets tend to drive people away and thereby reduce participation. Consequently, fairness has value as a means to the end of efficiency.

Second, efficiency is itself an ethical value, an end worth pursuing, because achieving the maximum output with the minimum input—which is a simple definition of efficiency—provides an abundance of goods and services and thereby promotes the general welfare. Thus, achieving efficiency is as much of a moral goal as the achievement of fairness. However, fairness and efficiency can sometimes conflict, resulting in the unfortunate *equity/efficiency trade-off*. Painful choices between efficiency and fairness (or equity), or between eco-

nomic and social well-being, are at the heart of many difficult public policy decisions. However, we should not lose sight of the fact that fairness contributes to efficiency, and also that efficiency is itself of moral value, even when the two conflict.

Fairness or justice is a very broad term, even when its use is restricted to financial markets. The first task of this section, therefore, is to develop some understanding of this important concept in the context of financial markets. This is followed by a consideration of the different ways in which transactions in financial markets can be unfair and to discover how this unfairness can be corrected. The possible ways in which individual investors and the public at large can be treated unfairly by the operation of financial markets are many, but the main kinds of unfairness are fraud and manipulation, inequalities in information and bargaining power, and inefficient pricing.[1]

What is fairness?

Fairness is a basic moral category of evaluation, roughly synonymous with justice, which has a wide range of application. Fairness is commonly applied in the moral appraisal, variously, of individual acts, activities, practices, rules, procedures, policies, outcomes, and institutions. It is among the more important moral categories, but it is not the whole of morality: welfare, rights, equality, liberty, and dignity are also significant moral considerations, with which fairness may sometimes conflict. Fairness is also closely associated with such moral concepts as impartiality, proportionality, reciprocity, and mutual benefit.

The core meaning of fairness involves at least two familiar ideas. First, fairness consists of treating people equally in accord with some rule, agreement, or expectation. Fairness in a grading system, for example, requires that understood rules be applied in the same way to all students, with no favoritism shown. When this is done, students typically receive different grades, but this is not necessarily unfair as long as the grades result from following the stated rules. Indeed, it would be unfair if students who performed differently received the same grade, because this would show that the rules were not applied consistently. In addition to equality of treatment, fairness may also reflect the equal conditions in which an activity takes place, as in a "fair deal" or a "fair game." This kind of fairness is often characterized as a "level playing field," where no one has an unfair advantage.

The second idea at the core of fairness is that outcomes be in accord with *justified* rules. Fairness requires not merely that the rules for grading be consistently applied but that they also be the right rules, which achieve the purpose of the grading system. Otherwise, the outcome of equally applied

rules would still be unfair. Insofar as students receive different grades, the differences between them should also be proportionate in ways that reflect the grading system's purpose. It might be unfair, for example, to give significantly lower grades for only minor differences in performance. The combination of these two ideas can be expressed as, "Like cases should be treated alike, and unlike cases should be treated differently in proportion to the relevant differences."

These two ideas are commonly distinguished as *procedural* and *substantive* fairness. Fairness is often relevant when some goods or some benefits and burdens are to be distributed. Thus, we should aim to distribute the good of income or the benefits and burdens of taxation fairly. Whatever procedure is used to make this distribution it should be fairly applied, but the resulting outcome or distribution may also be judged as fair or unfair as a matter of substance. A tax code, for example, may be applied fairly (procedural fairness) but produce an unfair outcome (substantive fairness), or vice versa. What makes an outcome fair is problematic, but it is often related to people's welfare or their rights or their deserts—that is, to what they are *owed* in some sense.

The meaning of fairness is narrowed when it is applied to financial markets or to financial activity generally, but it is still rather broad. Fairness in market exchange requires, first, a certain equality of *conditions*, a level playing field, where no one has an unfair advantage. A playing field may be unlevel or tilted for many reasons, but a certain amount of equality in information, resources, and the like is morally required. It is for this reason that insider trading on the basis of nonpublic information is generally thought to be unfair; the inside trader is thought to have an unfair advantage by competing under different conditions. Second, fairness also excludes certain *practices* that may be characterized as unfair competition. Clearly, fraud and manipulation in securities markets fit this characterization. Any manipulation of the market is an unfair competitive practice because it departs from standard trading rules. Other practices, such as program trading, have been questioned on grounds of fairness. Third, some distributive *outcomes* in markets may be criticized as unfair, such as high executive compensation. That a chief executive officer (CEO) should be awarded compensation that is many times the wages of an ordinary worker strikes some as unfair in itself. This outcome would be unfair, they argue, even if it were the result of market forces. Others argue that this level of pay is unfair, but only because the market itself is not functioning properly.[2] For these critics, the unfairness occurs in the area of practice rather than outcome.

Fairness is an important element not only in financial markets but also in other areas of finance. Financial reporting, for example, should aim at providing a fair presentation of a company's financial performance, and the company

itself should be fair in making disclosures. Corporate governance should ensure the fair treatment of shareholders and investors generally. Customers and clients of financial services providers should be treated fairly. Thus, a bank should be fair in evaluating applicants for loans. Fairness is also involved in the management of an economy. The level of inflation or public debt affects groups differently, since the former favors borrowers over savers and the latter benefits older generations while passing the burden to younger ones. Consequently, fairness should be considered in making decisions about these matters.

Fraud and manipulation

One of the main purposes of securities regulation is to prevent fraudulent and manipulative practices in the purchase or sale of securities. However, fraud is not confined to securities but can occur in any market exchange or, indeed, in any area of life where decisions are based on information provided by another party. Consumer fraud, for example, results when a company misrepresents some aspect of a product being sold or the conditions of sale. Submitting a false tax return—as when an individual or a company uses an illegal tax shelter—constitutes tax fraud. The collapse of Enron and WorldCom was caused by accounting fraud in which both companies succeeded for a time in hiding massive debts by the improper accounting treatment of certain transactions.

The common-law definition of fraud is the willful misrepresentation of a material fact that causes harm to a person who reasonably relies on the misrepresentation. Section 17(a) of the 1933 Securities Act and Section 10(b) of the 1934 Securities Exchange Act both prohibit anyone involved in the buying or selling of securities from making false statements of a material fact, omitting a fact that makes a statement of material facts misleading, or engaging in any practice or scheme that would serve to defraud.

This definition of fraud involves five elements. The first element is the making of a false statement or misrepresentation. Something false must be stated, written, implied, or otherwise conveyed. This false statement or misrepresentation must be, second, about a material fact; that is, it must involve some factual matter that can be characterized as true or false and that is important in some way (material) to a decision. Third, the party making the statement or representation must *know* that it is false and thereby *intend* that others be deceived. Knowledge and intention are mental matters that are usually necessary to establish guilt for any crime. Fourth, it is necessary in fraud that the other party actually relies on the false statement or misrepresentation in making a decision. Fifth, that party must suffer some loss or other

harm from this reliance. Each of these elements—a material misrepresentation, knowledge or intent, reliance, and harm—must be established in any court action for fraud, and proving them all is often difficult.

Investors, both as buyers and as sellers, are particularly vulnerable to fraud because the value of financial instruments depends almost entirely on information that is difficult to verify. The buyer of a house can at least examine the house itself, but a stockholder buys solely on the basis of information about the corporation. Much of the important information is in the hands of the issuing firm, and so antifraud provisions in securities law place an obligation not only on buyers and sellers of a company's stock, for example, but also on the company itself. Thus, a company that fails to report bad news may be committing fraud, even though the buyer of that company's stock buys it from a previous owner who may not be aware of the news. Insider trading is prosecuted as a fraud under Section 10(b) of the Securities Exchange Act on the grounds that any material nonpublic information ought to be revealed before trading. However, communicating that information is often not possible in an impersonal market, and so the only recourse for an insider may be to refrain from trading.

Manipulation generally involves the buying or selling of securities for the purpose of creating a false or misleading impression about the direction of their price so as to induce other investors to buy or sell the securities at prices that are disadvantageous to them. Like fraud, manipulation is designed to deceive others, but the effect is achieved by the creation of false or misleading *appearances* rather than by false or misleading *representations*. Manipulation may occur not only in securities transactions but also in any scheme that serves to create a misleading impression that disrupts the normal functioning of the market. For example, in 2012, a number of banks were accused of manipulating a key interest rate LIBOR (the London Interbank Offered Rate). This manipulation affected the interest rate charged on many different kinds of loans, which were pegged to LIBOR. The banks engaging in the manipulation were able to make trades based on changes in this rate, but perhaps the main reason for submitting false information was to enable the banks to appear sounder than they were. Admitting that the rate at which they were able to borrow was rising would indicate that they were becoming less creditworthy.

Fraud and manipulation are addressed by mandatory disclosure regulations as well as by penalties for false and misleading statements in any information released by a firm or for any manipulative schemes engaged in by investors. Mandatory disclosure regulations are justified, in part, because they promote market efficiency. Better informed investors, it is thought, will make more rational investment decisions, and they will do so at lower overall cost. A further justification for mandatory disclosure is the prevention of fraud and

manipulation under the assumption that good information drives out bad. Simply put, fraud and manipulation are more difficult to commit when investors have easy access to reliable information.

Mandatory disclosure regulations are generally considered to be preferable to merit regulations, such as state "blue sky" laws that require approval of offerings from a regulatory agency in order to ensure that the prices of the securities fairly reflect their value. Although many states have enacted blue sky laws with provisions for a regulatory approval based on merit, Congress specifically denied the SEC the authority to pass on the investment merit of any security, in the belief that disclosure provides better protection for investors.

Equal information

In all markets, information is a valuable commodity. Those who possess it can have a great advantage over those who lack it. Parties in an exchange typically possess not only different amounts of information but also different kinds. Such inequality is described by economists as information asymmetry. Some information asymmetry in financial markets may be considered unfair, but not all. Exactly what fairness requires with regard to information is not easy to determine. The same arguments that support a free flow of information may also justify people in taking advantage of superior information. In general, securities law aims to protect the reasonable investor from unfair advantage taking by those with superior information, but whether any given instance of advantage taking is unfair is open to dispute.

Consider, for example, whether a geologist, who concludes after careful study that a widow's land contains oil, would be justified in buying the land without revealing what he knows.[3] The geologist would be concealing relevant information that the widow would benefit from knowing. Without it, she might make a deal that would not bring her the greatest potential return. However, it may be argued that without such opportunities, geologists would not search for oil, and so society as a whole is better off if such advantage taking is permitted. In addition, the widow herself is better off in a society that allows some exploitation of superior knowledge. What she would gain in this transaction by having the information would be offset by living her life in a poorer society. A difficult task for securities regulation, then, is drawing a line between fair and unfair advantage taking when people have unequal information.

Competition between parties with very unequal information is often regarded as unfair because of the great advantage held by the one with superior information. In such cases, there is scarcely any real competition since

the party with inferior information is almost certain to lose in any transaction. The unfairness of unequal information involves the conditions under which market transactions occur, rather than procedures or outcomes. However, one may question whether conditions with unequal information are really unfair. Why should parties to an exchange have equal information? Perhaps investors with inferior information should simply not trade.

One answer to the question of why parties to an exchange should have equal information comes from the economic theory, which holds that markets can be efficient only in the presence of perfect information—when buyers and sellers know fully what they are giving up and receiving in return. Exchanges with imperfect information may not result in gains for both parties, which economic theory holds to be a major virtue of markets. This answer entails that all market exchanges should be conducted by parties with full information but leaves open the possibility that some people should not engage in market exchanges at all. That is, only parties with full information should seek to trade.

The problem with this answer is that some market activity is unavoidable, and people should not be deprived of the benefits of markets unnecessarily. It is acceptable for most people to shun certain markets in which sophisticated investors have a decided advantage. However, everyone needs to open a banking account, obtain credit, invest for the future, buy insurance, and the like. No one should have to engage in markets for essential services with an informational disadvantage. Alternatively, one should be able to participate in markets without fear of being taken advantage of by those with superior information. Furthermore, markets themselves can benefit from wide participation. Although the stock market is dominated by professional investors—many of which are institutions that manage pensions and mutual funds for individuals—there is still some benefit for society in enabling investors of modest resources to trade without a significant disadvantage. That is, the stock market may be healthier if professional and amateur investors can participate on roughly equal terms.

A further reason for promoting equal information is one of cost. Information is essential for market efficiency. Indeed, an efficient market is defined as one in which all available information is reflected in the price of securities. Obtaining information and utilizing it in a market involves some cost, which may be considerable. So efficiency is enhanced when this information is entered into the market at the lowest cost. This point is exemplified by the requirement that a company issuing stock provide a prospectus, which contains certain critical information. Investors could obtain this information themselves only at great cost, if at all, but the issuer can make it available for all investors in one document at relatively little expense. Thus, the many disclosure laws in finance, as well as the rest of the economy, are aimed at improv-

ing the operation of markets by providing information for both buyers and sellers at the lowest possible cost.

Equal information may mean, at least, two different things: that the parties to a trade actually *possess* the same information or have equal *access* to information. That everyone should possess the same information is an unrealizable ideal, and actual markets are characterized by great information asymmetries. However, two investors may be equally well informed even though they may not have exactly the same information, and this difference may lead them to make different decisions. When one investor buys a stock that the other sells, they typically hold different views about its worth. Access to information, on the other hand, refers to information that is potentially available to an investor, and an investor who does not make an effort to actually possess this information may be blamed for lacking it. Access to information is like the opportunity to succeed: as long as there is no impediment to success, people succeed based on their own effort.

One problem with defining equal information as having equal access to information is that the notion of equal access is not absolute but relative. Any information that one person possesses could be acquired by another with enough time, effort, and money. An ordinary investor has access to virtually all of the information that a stock analyst uses to evaluate a company's prospects. The main difference is that the analyst has faster and easier access to information because of an investment in resources and skills. Anyone else could make the same investment and thereby gain the same access—or a person could simply "buy" the analyst's skilled services. Therefore, accessibility is not a feature of information itself but a function of the investment that is required in order to obtain the information.

However, there are good reasons for encouraging people to acquire superior information for use in trade. Consider stock analysts and other savvy investors who spend considerable time, effort, and money to acquire information. Not only are they ordinarily entitled to use this information for their own benefit (because it represents a return on an investment), but they perform a service to everyone by ensuring that stocks are accurately priced. Efficient pricing reduces information asymmetries because the prices of stocks, bonds, and other financial instruments are available to all, but this kind of equal information is possible only if people with superior information are allowed to trade on it. Thus, information asymmetries are self-correcting, because people with superior information can reap the benefit only by trading, but this trading registers that information in the market for all to see.

The possession of unequal information strikes us as unfair mainly when the information has been illegitimately acquired or when its use violates some obligation to others. One argument against insider trading, for example, holds that an insider has not acquired the information legitimately but has stolen

(or "misappropriated") information that rightly belongs to the firm. Another argument contends that insiders have an obligation or fiduciary duty to a firm that precludes trading on inside information. In both arguments, the wrongfulness of insider trading consists not in the possession of unequal information, but in violating a moral obligation not to steal or a fiduciary duty to serve others. Insider trading can also be criticized on the grounds that others do not have the same access to the information, which leads us to the second sense of equal information, namely equal access.

Yet another argument against insider trading is that insiders use information that is not merely costly to obtain but that cannot be obtained by an outsider at any price. In other words, the information is inherently inaccessible. Frank H. Easterbrook and Daniel R. Fischel question this point. They ask, "If one who is an 'outsider' today could have become a manager by devoting the same time and skill as today's 'insider' did, is access to information equal or unequal?" They conclude that there is "no principled answer to such questions."[4] Although the dividing line may be blurry, some information is clearly inaccessible by any reasonable means.

The sense of fairness that is expressed by the concept of a level playing field does not require that everyone possess the same information or even have equal access to information in a strong sense. The proper conclusion is, first, that people should possess certain information that enables them to act in the market for essential goods so that they can make necessary transactions without being at a significant informational disadvantage. Anyone should be able to open a bank account, acquire a credit card, receive a loan, buy a home, or take out an insurance policy with sufficient information and other consumer protections that prevent advantage taking by better informed financial services providers.

Second, people should be able to have access to the information that they need to act in markets according to their own preferences. Not everyone wants to be a professional investor, nor need they be one. However, if people choose to operate in securities markets—or any other market, for that matter—they should have access to all relevant information on equal terms with others. This is to say that markets should be transparent with abundant information. The amount of information that companies are required to disclose to the public serves to make markets both fairer and more efficient by enhancing access.

Still, we hold that some information asymmetries are objectionable for one reason or another and ought to be corrected. From a utilitarian perspective, it could be argued that markets are more efficient when information is readily available and that we should seek to make information available at the lowest cost. To force people to make costly investments in information, or to suffer loss from inadequate information, is a deadweight loss to the economy if the

same information could be provided at little cost. Thus, the requirement that the issuance of new securities be accompanied by a detailed prospectus, for example, is intended not only to prevent fraud through the concealment of material facts but also to make it easier for buyers to gain certain kinds of information, which benefits society as a whole. Furthermore, investors, if forced to choose rules for a securities market, would realize that everyone is better off with a free flow of information.

Equal bargaining power

Generally, agreements reached by arm's-length bargaining are considered to be fair, regardless of the actual outcome. A trader who negotiates a futures contract that results in a great loss, for example, has only himself or herself to blame. However, the fairness of bargained agreements assumes that the parties have relatively equal bargaining power. Agreements can be criticized as unfair, then, when one party takes undue advantage of a superior bargaining position. Whether unequal bargaining power, like unequal information, leads to unfairness is, of course, a matter of dispute.

Unequal bargaining power is an unavoidable feature of financial markets and exploiting such power imbalances is not always unfair. In general, the law intervenes when exploitation is unconscionable or when the harm is not easily avoided, even by sophisticated investors. Little concern should be expressed, perhaps, for investors without the resources or skills for successful trading, but the success of financial markets depends on reasonably wide participation. If unequal bargaining power were permitted to drive all but the most powerful from economic exchange, then the efficiency of financial markets would be greatly impaired. Unequal bargaining power can result from many sources—including unequal information, which is discussed above—but other causes include unequal resources, unequal processing ability, and other vulnerabilities or weaknesses.

In most transactions, wealth is an advantage. The rich are better able than the poor to negotiate over almost everything. Prices of groceries in low-income neighborhoods are generally higher than those in affluent areas, for example, in part because wealthier customers have more options. Similarly, large investors have greater opportunities because they can be better diversified; they can bear greater risk and thereby obtain higher leverage; they can gain more from arbitrage through volume trading; and they have access to investments that are closed to small investors. For example, SEC rules permit private placements and other exempt transactions in which securities need not be registered, but these are limited to "accredited investors," who must meet certain thresholds with regard to personal income and wealth. These

rules are designed to protect small investors from losses they cannot afford, but they also limit their investment opportunities. The private sale of large blocks of securities outside of established markets is also an investment opportunity that is available only to very large investors, which are usually institutions.

The advantages of greater wealth are not usually considered to be unfair, in part because small investors can pool their resources and obtain the same benefits by investing in a mutual fund instead of an individual portfolio, for example. Without such opportunities for small investors, however, markets that favor the wealthy would probably be regarded as unfair.

With equal access to information and even equal possession, people still vary enormously in their ability to process information and to make informed judgments. Unsophisticated investors are ill-advised to play the stock market and even more so to invest in markets that only professionals understand. Securities firms and institutional investors overcome the problem of people's limited processing ability by employing specialists in different kinds of markets, and the use of computers in program trading enables these organizations to substitute machine power for gray matter. Program trading, including high-frequency trading, has been criticized mainly for introducing volatility into trading that is not warranted by the fundamentals of a market, but program trading also serves to reduce the number of investors who have any business in the financial marketplace.

Investors are only human, and human beings have many vulnerabilities or weaknesses that can be exploited. Some regulation is designed to protect people from the exploitation of their vulnerabilities. Thus, consumer protection legislation often provides for a "cooling-off" period during which shoppers can cancel an impulsive purchase. The requirements that a prospectus accompany offers of securities and that investors be urged to read the prospectus carefully serve to curb impulsiveness. Margin requirements and other measures that discourage speculative investment serve to protect incautious investors from overextending themselves, as well as to protect the market from excess volatility. The legal duty of brokers and investment advisers to recommend only suitable investments and to warn adequately of the risks of any investment instrument provides a further check on people's greedy impulses.

Insider Trading

Insider trading prosecutions have ensnared many high profile figures as well as ordinary investors. The convictions in the 1980s of Michael Milken and Ivan Boesky captured the popular imagination, and, more recently, media maven Martha Stewart served prison time for offenses related to her questionable sale of stock after receiving a tip. In 2012, the prominent hedge fund

manager Raj Rajaratnam was found guilty and sentenced to 11 years in prison for trades that netted him an alleged $60 million dollars in illicit profits.

The Rajaratnam case is significant not only for the amount of the gain but also for the extensive use of so-called "expert networks." His defense was a test of the "mosaic theory," that the investment decisions of Galleon, his hedge fund, were not based on any one piece of inside information but were pieced together, like a mosaic, from many different sources, no one of which might be considered significant in itself.[5] The investor's skill is required to put all this information together. Moreover, the stock transactions also involved a considerable amount of legitimate research and analysis. Needless to say, this test of the mosaic theory failed, and the expert network business has been set back.

It is difficult to determine the frequency of insider trading and the amounts involved since evidence is available only from the successful convictions. These convictions, moreover, rise and fall with the zeal of prosecutors and the investigative tools available. (The prosecution of Rajaratnam was facilitated, for example, by extensive recordings of telephone conversations and the cooperation of witnesses.) In recent years, though, insider trading enforcement has been a high priority in the United States and it is gaining strength in Europe after years of neglect.[6]

Despite many prosecutions, a definition of insider trading remains elusive. Insider trading is prosecuted in the US under SEC Rule 10b-5, which merely prohibits fraud in securities transactions. This vague wording is deliberate in order to create uncertainty in the minds of investors, but it also raises the legal vulnerability of the unwary. Some have argued that such a vague definition with draconian powers is fundamentally unfair to investors.[7] A more explicit, "bright line" definition would ease prosecutions and reduce the risk for investors, but it might also have less deterrent value. So one task for this section is to develop a definition for insider trading.

In addition to the need to define insider trading is the problem of showing its wrongness. Although insider trading is generally considered to be wrong, the basis of this judgment is surprisingly difficult to establish. Further, some legal scholars have argued that there is nothing wrong with the practice and that, indeed, it is, on balance, beneficial and should not be legally prohibited.[8] Much of this section consists of a discussion of the arguments for and against the wrongfulness of insider trading.

Insider trading defined

Insider trading is commonly defined as trading in the stock of publicly held corporations on the basis of material, nonpublic information. In a landmark 1968 decision, executives of Texas Gulf Sulphur Company were found guilty

of insider trading for investing heavily in their own company's stock after learning of the discovery of rich copper-ore deposits in Canada.[9] The principle established in this case is that insiders must refrain from trading on information that significantly affects their company's stock price until it becomes public knowledge. The rule for corporate insiders is: reveal or refrain!

Much of the uncertainty in the law on insider trading revolves around the relation of the trader to the source of the information. Corporate executives and directors are definitely "insiders," but some "outsiders" have also been charged with insider trading. Among such outsiders have been a printer who was able to identify the targets of several takeovers from legal documents that were being prepared; a financial analyst who uncovered a huge fraud at a high-flying firm and advised his clients to sell; a stockbroker who was tipped off by a client who was a relative of the president of a company and who learned about the sale of the business through a chain of family gossip; a psychiatrist who was treating the wife of a financier who was attempting to take over a major bank; and a lawyer whose firm was advising a client company that was planning a hostile takeover.[10] The first two traders were eventually found innocent of insider trading; the latter three were found guilty (although the stockbroker case was later reversed in part). From these cases a legal definition of insider trading has emerged.

The key points in this legal definition are that a person who trades on material, nonpublic information is engaging in insider trading when: (1) the trader has violated some legal duty to a corporation and its shareholders or (2) the source of the information has such a legal duty and the trader knows that the source is violating that duty. Thus, the printer and the stock analyst had no relation to the corporations in question and so had no duty to refrain from using the information that they had acquired. The stockbroker and the psychiatrist, however, knew or should have known that they were obtaining inside information indirectly from high-level executives who had a duty to keep information confidential. The corresponding rule for outsiders is: don't trade on information that is revealed in violation of a trust! Both rules are imprecise, however, and leave many cases unresolved.

Debate over insider trading

Three main rationales are used in support of a law against insider trading. One is based on *property rights* and holds that those who trade on material, nonpublic information are essentially stealing property that belongs to the corporation. The second rationale is based on *fairness* and holds that traders who use inside information have an unfair advantage over other investors and that, as a result, the stock market is not a level playing field. The third rationale

contends that an inside trader violates a fiduciary duty to the source of the information. These three rationales lead to different definitions with different scopes. On the property rights or "misappropriation" theory, only corporate insiders or outsiders who bribe, steal, or otherwise wrongfully acquire corporate secrets can be guilty of insider trading. The fiduciary argument applies only when information is used or disclosed in violation of a fiduciary duty. The fairness argument is broader and applies to anyone who trades on material, nonpublic information, no matter how it is acquired.

Property rights

One difficulty in using the property rights or misappropriation argument is determining who owns the information in question. The main basis for recognizing a property right in trade secrets and confidential business information is the investment that companies make in acquiring information and the competitive value that some information has. Not all inside information fits this description, however. Advance knowledge of better-than-expected earnings would be an example. Such information still has value in stock trading, even if the corporation does not use it for that purpose. For this reason, many employers prohibit the personal use of any information that an employee gains in the course of his or her work. This position is too broad, however, since an employee is unlikely to be accused of stealing company property by using knowledge of the next day's earning report for any purpose other than stock trading.

A second difficulty with the property rights argument is that if companies own certain information, then they could give their own employees permission to use it, or they could sell the information to favored investors or even trade on it themselves to buy back stock. Giving employees permission to trade on inside information could be an inexpensive form of extra compensation that further encourages employees to develop valuable information for the firm. Such an arrangement would also have some drawbacks; for example, investors might be less willing to buy the stock of a company that allowed insider trading because of the disadvantage to outsiders. What is morally objectionable about insider trading, according to its critics, though, is not the misappropriation of a company's information but the harm done to the investing public. So the violation of property rights in insider trading cannot be the sole reason for prohibiting it. Fairness is also an important factor.

Fairness

Fairness in the stock market does not require that all traders have the same information. Indeed, trades will take place only if the buyers and sellers of a stock have different information that leads them to different conclusions about

the stock's worth. It is only fair, moreover, that a shrewd investor who has spent a great deal of resources studying the prospects of a company should be able to exploit that advantage. Otherwise there would be no incentive to seek out new information. What is objectionable about using inside information is that other traders are barred from obtaining it, no matter how diligent they may be. The information is unavailable not for lack of *effort* but for lack of *access*. Poker also pits card players with unequal skill and knowledge without being unfair, but a game played with a marked deck gives some players an unfair advantage over others. By analogy, then, insider trading is like playing poker with a marked deck.

The analogy may be flawed, however. Perhaps a more appropriate analogy is the seller of a home who fails to reveal hidden structural damage. One principle of stock market regulation is that both buyers and sellers of stock should have sufficient information to make rational choices. Thus, companies must publish annual reports and disclose important developments in a timely manner. A CEO who hides bad news from the investing public, for example, can be sued for fraud. Good news, such as an oil find, need not be announced until a company has time to buy the drilling rights, and so on; but to trade on that information before it is public knowledge might also be described as a kind of fraud by making a purchase without disclosing relevant information to the seller.

In fraudulent transactions, one party, such as the buyer of the house with structural damage, is wrongfully harmed for lack of knowledge that the other party concealed. Similarly, the ignorant parties to insider-trading transactions are wrongfully harmed when material facts, such as the discovery of copper-ore deposits in the *Texas Gulf Sulphur* case, are not revealed.

The main weakness of the fairness argument is determining what information ought to be revealed in a transaction. The reason for requiring a homeowner to disclose hidden structural damage is that doing so makes for a more efficient housing market. In the absence of such a requirement, potential home buyers would pay less because they would not be sure of what they were getting or they would invest in costly home inspections. Similarly, the argument goes, requiring insiders to reveal before trading makes the stock market more efficient. This argument appeals not to fairness but to efficiency and its welfare benefits.

Another problem with this efficiency argument is that some economists argue that the stock market would be more efficient *without* a law against insider trading.[11] If insider trading were permitted, they claim, information would be registered in the market more quickly and at less cost than the alternative of leaving the task to research by stock analysts. The main beneficiaries of a law against insider trading, critics continue, are not individual

investors but market professionals who can pick up news "on the street" and act on it quickly. A legal prohibition against insider trading denies a benefit to insiders, who get the information first, but confers the benefit on the second person to get the information, usually a savvy market professional, which is of little benefit to the average investor. Some economists argue further that a law against insider trading preserves the illusion that there is a level playing field and that individual investors have a chance against market professionals.

One response to this case for the legalization of insider trading is that it considers only at the cost of registering information in the market and not at possible adverse consequences of legalized insider trading, which are many. Investors who perceive the stock market as an unlevel playing field may be less inclined to participate or will be forced to adopt costly defensive measures. In addition, any increase in efficiency from insider trading is apt to be minimal since the information involved would usually get registered in the market quickly and at low cost without the aid of insiders. Furthermore, legalized insider trading would have an effect on the treatment of information in a firm. Employees whose interest is in information that they can use in the stock market may be less concerned with information that is useful to the employer. The company itself might attempt to tailor its release of information for the maximum benefit to insiders. More importantly, the opportunity to engage in insider trading might undermine the relation of trust that is essential for business organizations.[12] A prohibition on insider trading frees employees of a corporation to do what they are supposed to be doing—namely, working for the interests of the shareholders—not seeking ways to advance their own interests.

Fiduciary duty

The harm that legalized insider trading could do to organizations suggests that the strongest argument against legalization might be the breach of fiduciary duty that would result. Virtually everyone who could be called an insider has a fiduciary duty to serve the interests of the corporation and its shareholders, and the use of information that is acquired while serving as a fiduciary for personal gain is a violation of this duty. It would be a breach of professional ethics for a lawyer or an accountant to benefit personally from the use of information acquired in confidence from a client, and it is similarly unethical for a corporate executive to make personal use of confidential business information.

The argument that insider trading constitutes a breach of fiduciary duty accords with recent court decisions that have limited the prosecution of insider trading to true insiders who have a fiduciary duty. One drawback

of this fiduciary duty argument is that "outsiders" whom federal prosecutors have sought to convict of insider trading would be free of any restrictions. A second drawback is that insider trading, on this argument, is no longer an offense against the market but the violation of a duty to another party, and the duty not to use information that is acquired while serving as a fiduciary prohibits more than insider trading. The same duty would be violated by a fiduciary who buys or sells property or undertakes some other business dealing on the basis of confidential information. That such breaches of fiduciary duty are wrong is evident, but the authority of the SEC to prosecute them under a mandate to prevent fraud in the market is less clear.

Resolving the debate

In 1997, the US Supreme Court ended a decade of uncertainty over the legal definition of insider trading. The SEC has long prosecuted insider trading using the misappropriation theory, according to which an inside trader breaches a fiduciary duty by misappropriating confidential information for personal trading. In 1987, the high court split four-to-four on an insider trading case involving a reporter for *The Wall Street Journal*, and thus left standing a lower-court decision that found the reporter guilty of misappropriating information.[13] However, the decision did not create a precedent for lack of a majority. Subsequently, lower courts rejected the misappropriation theory in a series of cases in which the alleged inside trader did not have a fiduciary duty to the corporation whose stock was traded. The principle applied was that the trading must itself constitute a breach of fiduciary duty. This principle was rejected in *U.S. v. O'Hagan*.

James H. O'Hagan was a partner in a Minneapolis law firm that was advising the British firm Grand Metropolitan in a hostile takeover of the Minneapolis-based Pillsbury Company. O'Hagan did not work on Grand Met business but allegedly tricked a fellow partner into revealing the takeover bid. O'Hagan then reaped $4.3 million by trading in Pillsbury stock and stock options. An appellate court ruled that O'Hagan did not engage in illegal insider trading because he had no fiduciary duty to Pillsbury, the company in whose stock he traded. Although O'Hagan misappropriated confidential information from his own law firm, to which he owed a fiduciary duty, trading on this information did not constitute a fraud against the law firm or against Grand Met. Presumably, O'Hagan would have been guilty of insider trading only if he were an insider of Pillsbury.

In a six-to-three decision, the Supreme Court reinstated the conviction of Mr O'Hagan and affirmed the misappropriation theory. According to the deci-

sion, a person commits securities fraud when he or she "misappropriates confidential information for securities trading purposes, in breach of a fiduciary duty owed to the source of the information." Thus, an inside trader need not be an actual insider (or a temporary insider, like a lawyer) of the corporation whose stock is traded. Being a temporary insider in Grand Met is sufficient in this case to hold that insider trading occurred. The majority opinion observed that "it makes scant sense" to hold a lawyer like O'Hagan to have violated the law "if he works for a law firm representing the target of a tender offer, but not if he works for a law firm representing the bidder." The crucial point is that O'Hagan was a fiduciary who misused information that had been entrusted to him. This decision would also apply to a person who receives information from an insider and who knows that the insider source is violating a duty of confidentiality. However, a person with no fiduciary ties who receives information innocently (by overhearing a conversation, for example) would still be free to trade.

Hostile Takeovers

Since its founding in 1863, Pacific Lumber Company had been a model employer and a good corporate citizen. As a logger of giant redwoods in northern California, this family-managed company had long followed a policy of perpetual sustainable yield. Cutting was limited to selected mature trees, which were removed without disturbing the forests, so that younger trees could grow to the same size. Employees—many from families that had worked at Pacific Lumber for several generations—received generous benefits, including an overfunded company-sponsored pension plan. With strong earnings and virtually no debt, Pacific Lumber seemed well positioned to survive any challenge.

However, the company fell prey to a hostile takeover. In 1985, financier Charles Hurwitz and his Houston-based firm Maxxam, Inc., mounted a successful $900 million leveraged buyout of Pacific Lumber. By offering $40 per share for stock that had been trading at $29, Hurwitz gained majority control. The takeover was financed with junk bonds issued by Drexel Burnham Lambert under the direction of Michael Milken. Hurwitz expected to pare down the debt by aggressive clear-cutting of the ancient stands of redwoods that Pacific Lumber had protected and by raiding the company's overfunded pension plan.

Using $37.3 million of $97 million that Pacific Lumber had set aside for its pension obligations, Maxxam purchased annuities for all employees and

retirees and applied more than $55 million of the remainder toward reducing the company's new debt. The annuities were purchased from First Executive Corporation, a company that Hurwitz controlled. First Executive was also Drexel's biggest junk-bond customer, and the company purchased one-third of the debt incurred in the takeover of Pacific Lumber. After the collapse of the junk-bond market, First Executive failed in 1991 and was taken over by the State of California in a move that halted pension payments to Pacific Lumber retirees. For many years, Charles Hurwitz and Maxxam were mired in lawsuits by former stockholders, retirees, environmentalists, and local governments. In 2008, the now-bankrupt Pacific Lumber Company was dissolved, and its assets were formed into the new Humboldt Redwood Company.

A hostile takeover is an acquisition that is opposed by the management of the target corporation. It is merely one kind of corporate restructuring along with friendly mergers and acquisitions, leveraged buyouts, breakups into two or more corporations, divestitures of whole divisions, sales of assets, and liquidations. These restructurings raise few ethical problems because the managers and shareholders of the firms in question usually come to a mutual agreement. Hostile takeovers, by contrast, typically involve sharp disagreements between managers, shareholders, and other corporate constituencies. In addition, hostile takeovers appear to violate the accepted rules for corporate change. Peter Drucker observed that the hostile takeover "deeply offends the sense of justice of a great many Americans."[14] An oil industry CEO charged that such activity "is in total disregard of those inherent foundations which are the heart and soul of the American free enterprise system."[15] Many economists defend hostile takeovers on the grounds that they bring about needed changes that cannot be achieved by the usual means.[16]

The ethical issues in hostile takeovers are threefold. First, should hostile takeovers be permitted at all? Insofar as hostile takeovers are conducted in a market through the buying and selling of stocks, there exists a "market for corporate control." So the question can be expressed in the form: Should there be a market for corporate control? Or should change of control decisions be made in some other fashion? Second, ethical issues arise in the various tactics that have been used by raiders in launching attacks, as well as by target corporations in defending themselves. Some of these tactics are criticized on the grounds that they unfairly favor the raiders or incumbent management, often at the expense of shareholders, employees, and communities. Third, hostile takeovers raise important issues about the fiduciary duties of officers and directors in their responses to takeover bids. In particular, what should directors do when an offer that shareholders want to accept is not in the best interests of the corporation itself—or of other constituencies? Do they have a right, indeed, a responsibility, to prevent a change of control.

Fairness in takeovers

Defenders of hostile takeovers contend that corporations become takeover targets when incumbent management is unable or unwilling to take steps that increase shareholder value. The raiders' willingness to pay a premium for the stock reflects a belief that the company is not achieving its full potential under the current management. "Let us take over," the raiders say, "and the company will be worth what we are offering." Because shareholders often find it difficult to replace the current managers through traditional proxy contests, hostile takeovers are an important means for shareholders to realize the full value of their investment. Although restructurings of all kinds cause some hardships to employees, communities, and other groups, society as a whole benefits from the increased wealth and productivity—or so the argument goes.

Just the threat of a takeover serves as an important check on management, and without this constant spur, defenders argue, managers would have less incentive to secure full value for the shareholders. With regard to the market for corporate control, defenders hold that shareholders are, and ought to be, the ultimate arbiters of who manages the corporation. If the shareholders have a right to replace the CEO, why should it matter when or how shareholders bought the stock? A raider who bought the stock yesterday in a tender offer has the same rights as a shareholder of long standing. Any steps to restrict hostile takeovers, the defenders argue, would entail an unjustified reduction of shareholders' rights.

Critics of hostile takeovers challenge the benefits and emphasize the harms. Targets of successful raids are sometimes broken up and sold off piecemeal, or downsized and folded into the acquiring company. In the process, people are thrown out of work and communities lose their economic base. Takeovers generally saddle companies with debt loads that limit their options and expose them to greater risk in the event of a downturn. Critics also charge that companies are forced to defend themselves by managing for immediate results and adopting costly defensive measures. Although takeovers and the threat of takeovers may force some beneficial changes on corporations, this flurry of activity serves primarily to enrich investment bankers and lawyers. The benefit to the shareholders of the companies involved comes at the expense of other constituencies. Not all takeovers result from sound financial decision making, and, in any event, change-of-control decisions are too important to be made solely on the basis of financial considerations. The market for corporate control should be broadened to include more than the interests of shareholders, and perhaps government should play some role.

The debate over hostile takeovers revolves largely around the question of whether they are good or bad for the American economy. This is a question

for economic analysis, and the evidence, on the whole, is that takeovers generally increase the value of both the acquired and the acquiring corporation.[17] These results must be viewed with some caution, however.

First, not all takeover targets are underperforming businesses with poor management. Other factors can make a company a takeover target. The "bust-up" takeover operates on the premise that a company is worth more sold off in parts than retained as a whole. Large cash reserves, expensive research programs, and other sources of savings enable raiders to finance a takeover with the company's own assets. The availability of junk-bond financing during the 1980s permitted highly leveraged buyouts with levels of debt that many considered to be unhealthy for the economy. Finally, costly commitments to stakeholder groups can be tapped to finance a takeover. Thus, Pacific Lumber's pension plan and cutting policy constituted commitments to employees and environmentalists respectively. Both commitments were implicit contracts that had arguably benefited shareholders and communities in the past but that could now be broken with impunity.

Second, some of the apparent wealth that takeovers create may result from accounting and tax rules that benefit shareholders but create no new wealth. For example, the tax code favors debt over equity by allowing a deduction for interest payments on debt while taxing corporate profits. Rules on depreciation and capital gains may result in tax savings from asset sales following a takeover. Thus, taxpayers provide an indirect, perhaps unintended, subsidy in the financing of takeovers. Some takeovers result in direct losses to other parties. Among the losers in hostile takeovers are often bondholders, whose formerly secure, investment-grade bonds are sometimes downgraded to speculative, junk-bond status. Hostile takeovers are only one among many ways in which shareholders can benefit at bondholders' expense.

Third, there is little evidence that newly merged or acquired firms outperform industry averages in the long run.[18] This result counts against the claim that takeovers are cures for underperforming managers. The immediate boost to the stock's price may be due to one-time savings from cost-cutting or from tax and accounting rules, or it may reflect an upward adjustment by a market that had previously undervalued a company. The difference between short-term and long-term stock market performance does not necessarily mean that the market is imperfect; it may result from financial judgments based on different time horizons. Thus, during a period of high interest rates, the market may apply a relatively high discount rate to investments, whereas managers may regard current interest rates as an aberration and apply a lower discount rate in making investment decisions. The justification of takeovers, then, depends on whether the economy is strengthened by investment decisions

that take a long-term view of discount rates or by decisions that readjust with each short-term change in capital markets.[19]

Takeover tactics

In a typical hostile takeover, an insurgent group, often called a "raider," makes a *tender offer* to buy a controlling block of stock in a target corporation from its present shareholders.[20] The offered price generally involves a *premium*, which is an amount in excess of the current trading price. If enough shareholders accept the tender offer by indicating their willingness to sell their shares, the insurgents gain control. In the usual course of events, the raiders replace the incumbent management team and proceed to make substantial changes in the company. In some instances, a tender offer is made directly to the shareholders, but in others the cooperation of management is required in order to reach the shareholders.

When the cooperation of the target firm is required, its officers and directors have a fiduciary duty to consider a tender offer in good faith. If they believe that a takeover is not in the best interests of the shareholders, then they have a right, even a duty, to fight the offer with all available means. Corporations have many resources for defending against hostile takeovers. These tactics—collectively called "shark repellents"—include poison pills, white knights, lockups, crown-jewel options, the Pac-Man defense, golden parachutes, and greenmail (see Table 5.1). Some of the defensive measures (such as poison pills and golden parachutes) are usually adopted in advance of any takeover bid, while others (white knights and greenmail) are customarily employed in the course of fighting an unwelcome offer. Many states have adopted so-called antitakeover statutes that further protect incumbent management against raiders. Because of shark repellents and antitakeover statutes, a merger or acquisition is virtually impossible to conduct today without the cooperation of the board of directors of the target corporation.

All takeover tactics raise important ethical issues, but three, in particular, have elicited great concern. These are unregulated tender offers, golden parachutes, and greenmail.

Tender offers

Ethical concern about the tactics of takeovers has focused primarily on the defenses of target companies, but unregulated tender offers are also potentially abusive. Before 1968, takeovers were sometimes attempted by a so-called "Saturday-night special," in which a tender offer was made after the close of the market on Friday and set to expire on Monday morning. The

Table 5.1 Takeover defenses

Crown-Jewel Option. A form of lockup in which an option on a target's most valuable assets (crown jewels) is offered to a friendly firm in the event of a hostile takeover. This defense reduces the value of the firm to the acquirer.

Golden Parachute. A part of the employment contract with a top executive that provides for additional compensation in the event that the executive departs voluntarily or involuntarily after a takeover. The defense adds to the cost of a takeover by creating a large expense.

Greenmail. The repurchase by a target of an unwelcome suitor's stock at a premium in order to end an attempted hostile takeover. The term is modeled on "blackmail" so as suggest a form of extortion.

Lockup Option. An option given to a friendly firm to acquire certain assets in the event of a hostile takeover. Usually, the assets are crucial for the financing of a takeover and may include a firm's "crown jewels" (see Crown-Jewel Option).

Pac-Man Defense. A defense (named after a popular video game with creatures that seek to eat each other) in which the target makes a counteroffer to acquire the unwelcome suitor.

Poison Pill. A general term for any device that lowers the price of a target's stock in the event of a takeover. A common form of poison pill is the issuance of a new class of preferred stock that shareholders have a right to redeem at a premium after a takeover.

Shark Repellent. A general term for all takeover defenses.

White Knight. A friendly suitor that makes an offer for a target in order to avoid a takeover by an unwelcome suitor.

Saturday-night special was considered to be coercive because shareholders had to decide quickly whether to accept the tender offer with little information.[21] Shareholders would generally welcome an opportunity to sell stock that trades at $10 a share on a Friday afternoon for, say, $15. If, on Monday morning, however, the stock sells for $20 a share, then the shareholders who accepted the tender offer over the weekend gained $5 but lost the opportunity to gain $10. With more information, shareholders might conclude that $15 or even $20 was an inadequate price and that they would be better off holding on to their shares, perhaps in anticipation of an even better offer.

Partial offers for only a certain number or percentage of shares and two-tier offers can also be coercive. In a two-tier offer, one price is offered for, say, 51 percent of the shares and a lower price is offered for the remainder. Both offers

force shareholders to make a decision without knowing which price they will receive for their shares or, indeed, whether their shares will even be purchased by the raider. Thus, tender offers can be structured in such a way that shareholders are stampeded into tendering quickly, lest they lose the opportunity. The payment that is offered may include securities—such as shares of the acquiring corporation or a new merged entity—and the value of these securities may be difficult to determine. Without adequate information, shareholders may not be able to judge whether a $15 per share noncash offer, for example, is fairly priced.

Congress addressed these problems with tender offers in 1968 with the passage of the Williams Act. The guiding principle of the Williams Act is that shareholders have a right to make important investment decisions in an orderly manner with adequate information. They should not be stampeded into tendering for fear of losing the opportunity or forced to decide in ignorance. Under Section 14(d) of the Williams Act, a tender offer must be accompanied by a statement detailing the bidder's identity, the nature of the funding, and plans for restructuring the takeover target.[22] A tender offer must be open for 20 working days, in order to allow shareholders sufficient time to make a decision, and accepting shareholders have 15 days in which to change their minds, thereby permitting them to accept a better offer should one be made. The Williams Act deals with partial and two-tier offers by requiring proration. Thus, if more shares are tendered than the bidder has offered to buy, then the same percentage of each shareholder's offered stock must be purchased. Proration ensures the equal treatment of shareholders and removes the unfair pressure on shareholders to tender early.

Golden parachutes

At the height of takeover activities in the 1980s, between one-quarter and one-half of major American corporations provided their top executives with an unusual form of protection—golden parachutes.[23] By 2012, the figure had risen to more than three-quarters.[24] A golden parachute is a provision in a manager's employment contract for compensation—usually a cash settlement equal to several years' salary—for the loss of a job following a takeover. In general, golden parachutes are distinct from severance packages because they become effective only in the event of a change of control and apply to both voluntary and involuntary termination. Thus, a golden parachute-equipped executive who is assigned to a lesser position after a takeover may be able to resign voluntarily and still collect the compensation. Golden parachutes are usually limited to the CEO and a small number of other officers.[25]

The most common argument for golden parachutes is that they reduce a potential conflict of interest. Managers who might lose their jobs in the event

of a takeover cannot be expected to evaluate a takeover bid objectively. Michael C. Jensen observes, "It makes no sense to hire a realtor to sell your house and then penalize your agent for doing so."[26] A golden parachute protects managers' futures, no matter the outcome, and thus frees them to consider only the best interests of the shareholders. In addition, golden parachutes enable corporations to attract and retain desirable executives because they provide protection against events that are largely beyond managers' control. Without this protection, a recruit may be reluctant to accept a position at a potential takeover target or in an industry subject to takeovers, or a manager might leave a vulnerable company in anticipation of a takeover bid. Further, the cost of exercising golden parachutes may deter takeovers and thus function like a takeover defense, although whether this counts in favor of golden parachutes depends on the merits of such defensive measures. Ultimately, the value of reducing conflicts of interests for managers depends on the returns to shareholders.

Critics argue, first, that golden parachutes merely entrench incumbent managers by raising the price that raiders would have to pay. In this respect, golden parachutes are like poison pills in that they create costly new obligations in the event of a change of control. All such defensive measures are legitimate if they are approved by the shareholders, but golden parachutes, critics complain, are often secured by executives from compliant boards of directors that they control. If golden parachutes are in the shareholders' interests, then executives should be willing to obtain shareholder approval.[27] Otherwise, they appear to be self-serving defensive measures that violate a duty to serve the shareholders. The view that shareholders are perhaps ill-served by golden parachutes prompted a change in the tax code in 1996 to discourage high compensation in them,[28] and the 2010 Dodd–Frank Act requires a nonbinding shareholder vote on golden parachutes in certain circumstances.[29]

Second, some critics object to the idea of providing additional incentives to do what they are being paid to do anyway.[30] Philip L. Cochran and Steven L. Wartick observe that managers are already paid to maximize shareholder wealth: "To provide additional compensation in order to get managers to objectively evaluate takeover offers is tantamount to management extortion of the shareholders."[31] One experienced director finds it "outrageous" that executives should be paid *after* they leave a company. Peter G. Scotese writes: "Why reward an executive so generously at the moment his or her contribution to the company ceases? The approach flies in the face of the American work ethic, which is based on raises or increments related to the buildup of seniority and merit."[32] These arguments suggest that even if golden parachutes can be justified economically, the perception that executives are abusing their

power by obtaining undeserved compensation undermines public confidence in business and leads to demands for government action.

Third, the arguments in support of golden parachutes cite the sources of shareholder benefit, but these can be questioned. A 2012 study finds that shareholders gain some benefit from golden parachutes for the reason that the companies adopting them are more often acquired with the result that shareholders realize an acquisition premium. However, the premium in these acquisitions is on average lower than in cases of acquired companies without golden parachutes. The study further finds, though, that companies with golden parachutes underperform those without them both before and after the acquisition. As a result, shareholders benefit from the adoption of golden parachutes only if the acquisition premium exceeds the reduction in stock returns. A possible reason for this underperformance is that managers with golden parachutes may not be incentivized to operate the firm for maximum returns since they lack the discipline that the market for corporate control would otherwise provide.[33]

The justification for all forms of executive compensation lies with the incentive it provides for acting in the shareholders' interests. If golden parachutes are too generous, then they entrench management by making the price of a takeover prohibitive, with the possible result that managers do not exert full effort. Alternatively, overly generous golden parachutes might motivate managers to support a takeover against the interests of shareholders. In either case, the managers enrich themselves at the shareholders' expense. The key is to develop a compensation package with just the right incentives, which, as Michael Jensen notes, will depend on the particular case.[34] Jensen recommends that golden parachutes be extended beyond the CEO to those who will play an important role in the negotiation and implementation of a takeover, and that the compensation provided by the parachutes should be tied in some way to the payoff of a takeover for shareholders, which is easier said than done.

Greenmail

Unsuccessful raiders do not always go away empty-handed. Because of the price rise that follows an announced takeover bid, raiders are often able to sell their holdings at a tidy profit. Indeed, this possibility provides an important hedge that reduces the risk of an attempted takeover. In some instances, though, target corporations have repelled unwelcome assaults by buying back the raiders' shares at a premium. After the financier Saul Steinberg accumulated more than 11 percent of Walt Disney Productions stock in 1984, the Disney board agreed to pay $77.50 per share, a total of $325.3 million, for stock that Steinberg had purchased at an average price of $63.25. As a reward

for ending his run at Disney, Steinberg pocketed nearly $60 million. This episode and many like it have been widely criticized as *greenmail*.

The play on the ward "blackmail" suggests that there is something corrupt about offering or accepting greenmail. A more precise term that avoids this bias is *control repurchase*. A control repurchase may be defined as a "privately negotiated stock repurchase from an outside shareholder at a premium over the market price, made for the purpose of avoiding a battle for control of the company making the repurchase."[35] Control repurchases are legal; there is nothing in US securities law that prohibits such transaction. Congress has conducted hearings on proposals to ban control repurchases in response to concerns by the SEC and business groups, but to date no legislation has been passed. Control repurchases have been challenged in court as a breach of the management's fiduciary duty to shareholders, but courts have been reluctant to intervene unless the managers' decisions serve to protect only their own interests. Many people think that there ought to be a law, but we need to ask first why contral repurchases are considered to be unethical.

There are three main ethical objections to control repurchases.[36] First, control repurchases are negotiated with one set of shareholders, who receive an offer that is not extended to everyone else. This is a violation, same say, of the principle that all shareholders should be treated equally. The same offer should be made to all shareholders—or none. To buy back the stock of raiders, especially at a premium, is unfair to other shareholders.

This argument is easily dismissed. Managers have an obligation to treat all shareholders according to their rights under the charter and bylaws of the corporation and the relevant corporate law. This means one share, one vote at meetings and the same dividend for each share.[37] Otherwise, there is no legal or ethical obligation for managers to treat shareholders equally. That is, their right to equal treatment is limited to only a few matters. Moreover, paying a premium for the repurchase of stock is a use of corporate assets that presumably brings some return to the shareholders, and the job of managers is to put all corporate assets to their most productive use. If the $60 million that Disney paid to Saul Steinberg, for example, brings higher returns to the shareholders than any other investment, then the managers have an obligation *to all shareholders* to treat this one shareholder differently.

Second, control repurchases are criticized as a breach of the fiduciary duty of management to serve the shareholders' interests. One critic of greenmail makes the case as follows:

> Say you owned a small apartment building in a distant city, and you hired a professional manager to run it for you. This person likes the job, and when someone—an apartment "raider"—sought to offer you a good price for the

> building, the manager does everything to prevent you from being able to consider the offer. . . . When all else fails, the manager takes some of your own money and pays the potential buyer greenmail to look elsewhere.[38]

If managers use shareholders' money to pay raiders to go away merely to save their own jobs, then they have clearly violated their fiduciary duty. However, this may not be the intent of managers in all cases of greenmail. Managers of target corporations may judge that an offer is not in the best interests of shareholders and that the best defensive tactic is a repurchase of the raiders' shares. With $60 million, Disney might have made another movie that would bring a certain return. However, Disney executives might also have calculated that the costs to the company of continuing to fight Saul Steinberg—or of allowing him to gain control—would outweigh this return. If so, then the $60 million that Disney paid in greenmail is shareholder money well spent. Other defensive tactics cost money as well, and the possibility of managers spending shareholders' money to preserve their own jobs exists with any takeover defense.[39] There is, therefore, no reason to believe that greenmail necessarily involves a breach of fiduciary duty.

Third, some critics object to greenmail or control repurchases on the grounds that the payments invite *pseudobidders* who have no intention of taking control and mount a raid merely for the profit.[40] The ethical wrong, according to this objection, lies with the raiders' conduct, although management may be complicit in facilitating it. At a minimum, pseudobidders are engaging in unproductive economic activity, which benefits no one but the raiders themselves; at their worst, pseudobidders are extorting corporations by threatening some harm unless the payments are made.

Is pseudobidding for the purpose of getting greenmail a serious problem? The effectiveness of pseudobidding depends on the credibility of the threatened takeover. No raider can pose a credible threat unless an opportunity exists to increase the return to shareholders. Therefore, the situations in which pseudobidders are likely to emerge are quite limited. Even if a pseudobidder or a genuine raider is paid to go away, that person has pointed out some problem with the incumbent management and paved the way for change. Unsuccessful raiders who accept greenmail may still provide a service for everyone.[41] A prohibition on greenmail or control repurchases would increase the risk of attempting a raid and thereby discourage this potentially beneficial activity.

If it were possible for raiders to hold America's corporations hostage, then something should be done, and prohibiting greenmail would be one solution. Before taking action, however, more empirical research must be done on the incidence of pseudobidding, the conditions under which it occurs, and

the actual consequences. Moreover, the distinction between a pseudobidder and a genuine raider is difficult to make, and provable pseudobidding could be prosecuted as a fraud because of false statements in mandatory SEC filings. Hence, even if pseudobidding is a problem, a ban on greenmail may not be the solution.

Role of the board

In 1989, Paramount Communications made a tender offer for all outstanding stock in Time Incorporated. Many Time shareholders were keen to accept the all-cash $175 per share bid (later raised to $200 per share), which represented about a 40 percent premium over the previous trading price of Time stock. However, the board of directors refused to submit the Paramount offer to the shareholders. Time and Warner Communications, Inc., had been preparing to merge, and the Time directors believed that a Time–Warner merger would produce greater value for the shareholders than an acquisition by Paramount. Disgruntled Time shareholders joined Paramount in a suit that charged the directors with a failure to act in the shareholders' interests.

This case raises two critical issues. First, who has the right to determine the value of a corporation in a merger or acquisition? Is this a job for the board of directors and their investment advisers? Both boards and their advisers have superior information about a company's current financial status and future prospects, but they also have a vested interest in preserving the status quo. Should the task of evaluation be left to the shareholders, whose interests are the ultimate arbiter but whose knowledge is often lacking? Some of the shareholders are professional arbitragers, who are looking merely for a quick buck. Second, does the interest of the shareholders lie with quick, short-term gain or with the viability of the company in the long run? Acceptance of the Paramount offer would maximize the immediate stock price for Time shareholders but upset the long-term strategic plan that the board had developed.

The Delaware State Supreme Court decision in *Paramount Communications, Inc. v. Time Inc.* addressed both issues by ruling that the Time board of directors had a right to take a long-term perspective in evaluating a takeover bid and had no obligation to submit the Paramount proposal to the shareholders.[42] The court recognized that increasing shareholder value in the long run involves a consideration of interests besides those of current shareholders, including other corporate constituencies, such as employees, customers, and local communities.[43] One concern of the Time directors was to preserve the "culture" of *Time* magazine because of the importance of editorial integrity to the magazine's readers and journalistic staff.

The *Paramount* decision is an example of a so-called "other constituency statute." A majority of states have now adopted (either by judicial or legislative action) laws that permit (and, in a few states, require) the board of directors to consider the impact of a takeover on a broad range of nonshareholder constituencies.[44] Other constituency statutes reflect a judgment by judges and legislators that legitimate nonshareholder interests are harmed by takeovers, and that directors faced with a takeover do not owe allegiance solely to the current shareholders.[45] Whether other constituency statutes serve to protect nonshareholder constituencies or merely increase the power of management to resist takeovers is an unresolved question. However, they represent a rethinking of the market for corporate control. As a result of other constituency statutes, decisions about the future of corporations depend more on calm deliberations in boardrooms and less on the buying and selling of shares in a noisy marketplace.

Financial Engineering

In recent years, financial markets have become highly quantitative. The image of a Wall Street banker is no longer the elegant figure in a gray pin-stripe suit but a young, whiz-kid math geek, known as a quant, who designs complex financial instruments and devises clever trading strategies. At the heart of this financial engineering is the computer, with its lightning-fast computational power and ability to crunch large volumes of data. Equally important, however, have been advances in finance theory, including the capital asset pricing model (CAPM) and option pricing theory, which have shown how formerly inexact pricing decisions could be treated mathematically. From economics, quantitative finance took highly mathematical models, which can be constructed to answer almost any question about market conditions and outcomes. Financial engineering, especially in the development of models, has also become the cornerstone of modern risk management.

Quants have not only transformed financial markets but garnered blame for much that has gone wrong. The subtitle of a recent book *The Quants* is "How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It."[46] Many of the financial instruments that were central to the financial crisis—especially subprime mortgages, collateralized debt obligations, and credit default swaps—are the products of financial engineering. Moreover, the failure of risk management, which led banks to leverage so highly and overlook hidden dangers, was due, in part, to financial engineering. This section considers two prominent outcomes of financial engineering, derivatives and high-frequency trading. One is a financially engineered product, the

other is a trading method. Both of these innovations offer great benefits but also can be dangerous if not handled with care.

Derivatives

A common feature of many financial scandals and crises in the past two decades has been the presence of *derivatives*. Whether derivatives have been a cause of these disasters or merely an incidental element is subject to debate, but their prominence has occasioned searching criticism. A world survey in 2011 by the Chartered Financial Analyst Institute found that issues surrounding financial derivatives were the top ethical concern of its members.[47] Distrust of derivatives was also reflected in Warren Buffett's characterization of them as "time bombs" and "financial weapons of mass destruction."[48]

Derivatives represent very valuable and creative financial innovations, which combine technology, finance theory, and highly sophisticated mathematics. These remarkable developments have also been facilitated by less noticed changes in financial regulation, which have been both applauded and condemned. Derivatives have had tremendous impacts in all realms of finance, including how trading is done, how risks are managed, and how banks serve clients. As with all powerful innovations, possibilities exist for misuse and miscalculation, especially when high leverage is employed, and so care must be exercised in using these tools and also in regulating their use.

The tasks of this section are, first, to understand derivatives—what they are and how they are used—and, second, to examine the ethical challenges that they pose. In particular, are there ways in which derivatives can be economically destructive, socially undesirable or otherwise ethically objectionable? Given their presence in recent scandals and crises, have they been among the causes and, if so, what faults, if any, do their causal roles reveal? Finally, what can be done to ensure that derivatives are used safely, productively, and ethically?

Understanding derivatives

The term *derivative* covers a wide variety of financial instruments, some of which are not really "derivative" at all, and, worse, indiscriminate use of the term may allow a blanket indictment of a whole class of instruments that have little in common—except perhaps for our difficulty in understanding them. One user jokingly described a derivative as "any financial product that is difficult to understand."[49] *The Economist* magazine suggests that the word itself should be banned for its role in promoting a myth that a world without such modern financial instruments would be much safer.[50]

What are derivatives? In the standard definition, a derivative is a financial instrument or contract between two parties (a buyer and a seller) in which the value of the asset bought and sold in the contract is dependent on or "derived" from the value of some underlying asset (the *underlying*). The underlying may be what is bought and sold in the contract or it may be the value of something else, such as the price of another asset, a rate (e.g., LIBOR), or an index (e.g., the S&P 500). All derivatives involve a contract made at some point in time with a settlement or delivery date set sometime in the future. On or before that date (the specifics are in the contract) either one party or both is committed to an exchange (is obligated to complete it) or else one party has a right (but not an obligation) to insist that the exchange take place (this is an *option*).

The contract in question can be customized to fit the unique situation of one party and thus be sold "over the counter" (OTC) or it can be a standardized instrument that is sold to many parties and traded on an organized exchange. Although an action must be taken at a time that is specified in the contract, the completion can be achieved either by the delivery of the asset purchased or by a cash settlement that represents the gain or loss of the parties. (A trader with a profit on buying 10 000 pork bellies might appreciate the cash.) Since derivatives are essentially contracts that commit the parties to an exchange in which the only missing variable is the price (which is yet to be determined), any gain for one party (a higher than expected price for the seller, for example) must be equal to a loss to the other party (who, in this example, pays a higher than expected price to buy). Thus, derivatives are zero-sum games in which one party gains only to the extent that the other loses. The exchange has no impact on the wealth of the whole economy—except insofar as the use of derivatives makes the economy more productive, which is not an inconsiderable factor.

There are three basic types of derivatives: forward and futures contracts (they may be considered together), options, and swaps. A forward contract is simply an agreement with another party to buy and sell an asset or commodity (e.g., gold or wheat) at a certain price at some time in the future. A futures contract involves the same kind of future exchange except that it is achieved not in a bilateral forward contract between a buyer and a seller but on an organized exchange in which the exchange itself serves as an intermediary, buying from sellers and selling to buyers. Exchanges for futures contracts solve the critical problems of finding trading partners (search costs), ensuring settlement (credit risk), and exiting positions (market risk). A forward contract is settled only on the date specified in the contract and has a value only on that date, while the value of a futures contract is computed daily based on

current prices (marked to market) and may be sold (or exited) at any time prior to the specified date.

An option is a contract that grants one party the right, but not the obligation, to buy or sell a certain quantity of an asset at a fixed *exercise* or *strike* price some time in the future. The right to sell an asset (e.g., a stock or a bushel of wheat) is a *put* option, and the right to buy is a *call* option. A swap is an agreement between two parties to exchange a series of cash flows for a certain period in the future. The most common swaps involve interest rates and currencies. For example, a party with a fixed-rate loan who would like to have one with a variable rate can arrange with the holder of a variable-rate loan who would prefer a fixed rate for each to make the other's payments. A similar swap can be arranged between two parties, one with receivables in Japanese yen that will be converted into US dollars and the other with the opposite situation. One party to a swap may have no interest-rate or currency exposure but may be willing merely to take the other side of the contract.

Especially prominent in the financial crisis was the *credit default swap* (CDS), which is essentially an insurance policy in which one party agrees, for a payment, to compensate the other party in the event that a borrower defaults on a loan. Although a CDS enables the holder of, say, corporate bonds to reduce the risk of default, the buyer need not actually own the bonds being insured; the swap could be merely a bet on whether default will occur with the bonds. This controversial feature of CDSs is like being able to obtain fire insurance on your neighbor's house.

How derivatives are used. Derivatives involve two kinds of parties: the *end users*, who are the buyers and sellers in a contract, and *dealers*, who devise the contracts and bring the parties together. Dealers benefit from the compensation they receive for their services, as well as any gains from their own trading in derivatives. Both sources of income have become increasingly important for dealers and now dwarf many other activities. The benefits for end users are fivefold: (1) better management of risks, (2) more flexibility in financial operations, (3) more diversified and economical access to funding, (4) more value realized from financial assets, and (5) more opportunities in trading (and perhaps speculating), especially in arbitrage.

Forward and futures contracts have long been employed to reduce or hedge the risk of uncertain prices. By these means, farmers are able to secure a fixed price for wheat or other commodities in advance of the harvest, in effect forgoing any gain from high prices in order to protect against price drops. Since the profits of airlines are impacted by the price of fuel, which is unpredictable, they, too, can avoid this risk with futures contracts, which lock in a known price. A corporation can also select the lowest cost funding avail-

able, without regard for whether it bears a fixed or variable interest rate or is denominated in a foreign currency, by purchasing interest-rate or currency swaps to cancel out the undesired features. Also, an investment fund that wants to increase its holdings of stocks or its mix of long-term and short-term bonds can purchase derivatives that achieve the desired portfolio profile without buying and selling the actual securities. Similarly, arbitraging differences between the prices of securities can often be done more quickly and cheaply with derivatives than by trading directly in the markets, and arbitraging indexes would be impossible without them. The possible uses of derivatives are almost unlimited, as are the benefits.

Everyone benefits when corporations are better able to manage risks of all kinds, which might otherwise lead to distress and reduced production and employment. Better risk management also yields rewards when firms are able to focus on their core businesses (flying passengers, for airlines) and not on risks beyond their control (fuel costs). The costs of managing risks are also lowered when the risk exposure is transferred to those best able to handle them. Improved access to funding from more diverse sources and at lower costs leads to economic growth and greater international competitiveness. Investors with mutual funds and pension funds also see their assets increase in value due to the improvements in the investing technology that derivatives provide.

Problems with derivatives

Derivatives—which encompass futures, options, and swaps, among other exotic instruments—have immense potential for improving our financial system and enhancing human welfare generally. Yet, their reputation is clouded by scandals and crises, and there is strong pressure to regulate them and perhaps limit their use. Critics cite not only their undeniable role in the financial crisis but also the trading losses that were sustained from derivatives by Procter & Gamble, Orange County, California, and Société Générale in France.

Money can be lost in unwise trades using any kind of financial instrument, and self-serving behavior by financial institutions is not uncommon. Therefore, any ethical criticism of derivatives should focus on the problems that are distinct from their misuse and the misbehavior surrounding them and that afflict these financial instruments in some more fundamental way. Airplanes can crash from faulty design, but we respond by correcting mistakes and building better ones. However, some argue that nuclear power plants are too dangerous to operate, even when they are properly designed. The relevant question, then, is whether derivatives are more like airplanes or nuclear power plants? Are they fundamentally flawed? Derivatives are criticized on two main grounds: first, that too often these financial instruments are used for *speculation*, in ways

that pose undue risks that make them socially undesirable; and, second, that some of the derivatives that have been sold, especially by major banks, have been *unsuitable* for relatively unsophisticated clients, of whom the issuers have allegedly taken unconscionable advantage.

Speculation

Elementary derivatives have existed from early history.[51] Aristotle recounts a tale about the philosopher Thales, who, correctly anticipating an abundant olive crop, paid owners of olive presses in the region to give him exclusive right of use during the harvest season so that growers would have to pay him for access to the presses.[52] Forward contracts on agricultural commodities have long been employed, but a distinction has been made throughout history between hedging, which is protecting against a risk that at least one party bears, and speculating, which is a pure bet on commodity prices or some other value without any interest at stake. In English common law, bets involving commodities have been regarded as "difference contracts," which are not legally enforceable if no real hedging occurred.[53]

In nineteenth century America, farmers were suspicious of commodity futures, which they believed were used to manipulate prices, and this suspicion, combined with a widespread sentiment against gambling, prevented the full legal acceptance of such derivatives.[54] At the same time, bucket shops of uncertain legality operated in many American cities.[55] Bucket shops, which are now illegal, claimed to make stock trades on behalf of small investors but, in fact, merely booked bets and settled them with offsetting wagers, like a modern-day bookie. Aside from extracting a commission, the operators of bucket shops would sometimes disappear with all the money collected and engage in other sharp practices.

When the Chicago Mercantile Exchange (CME) was founded in 1898 (originally the Chicago Butter and Egg Board), its attempt to trade commodity futures was stymied by an Illinois law against gambling.[56] This law could be avoided if the commodities were physically delivered, but if a contract could be settled only with cash, then it constituted an illegal wager. A middle course was found in which a futures contract was not gambling if the commodity *could* be delivered, even if the contract was, in fact, settled with cash. This fiction about delivery was preserved even if the total value of all contracts exceeded the supply so that not all of them could be settled with physical delivery. This problem cropped up again as late as 1982 when the CME sought to offer a stock index future, in which the underlying (a basket of all stocks in an index) could not be physically delivered. An act of Congress in that year removed this barrier.[57]

The reason why the possibility of delivery seems crucial is that it establishes *intent*. A farmer with a forward contract aims to sell his wheat at an acceptable price, which furthers a productive activity. On the other hand, a speculator who believes that wheat prices will fall and agrees to sell wheat on a future date at a fixed price intends merely to profit from the difference between the (hopefully low) price of wheat at the time of delivery and the (hopefully high) price at which he has contracted to sell it. Having no wheat of his own (except what he buys in the open market at the time of delivery), he cannot have had the intent of ensuring a good price for his own (nonexistent) crop. In the late 1800s, the term "wind wheat" was used to describe the fictitious supply that a speculator had agreed to sell.[58] The "wind wheat" that a speculator intends to sell seems rather different from the real wheat a farmer has grown and is bringing to market.

A noted definition of speculation from Nicholas Kaldor seizes on the importance of intent or motive. He defines speculation as "the purchase (or sale) of goods with a view to re-sale (re-purchase) at a later date, where the motive behind such action is the expectation of a change in the relevant prices relative to the ruling price and not a gain accrued through their use, or any kind of transformation effected in them or their transfer between different markets."[59] This definition suggests that profiting merely from a successful prediction of a price change is in itself a nonproductive activity that is parasitic on the market by taking without making any real contribution. In Biblical terms, speculation is reaping where one has not sown.

Since derivatives are zero-sum, any gain to a speculator requires a loss by someone else, and when the costs of derivatives use includes all the resources expended—what economists call *transaction costs*—the total losses are increased. Any zero-sum game with transaction costs is actually a negative-sum game. The costs of derivatives use may be offset, however, by gains to the whole economy, and even the participants may consider the benefits of using derivatives to be worth the cost. A genuine hedge, for example, is a cost, like buying insurance, but this protection is "bought" because it brings some desired benefit.

Furthermore, speculation is alleged to add further costs to the economy by, in some cases, driving prices above their fundamental level, which harms consumers, and, on other occasions, below this level, which harms producers.[60] Rising prices for oil or wheat, for example, which hurt the poor, are often blamed on heartless speculators. Speculation is also held to be responsible for increases in the volatility of markets and for asset price bubbles, which sometimes lead to crises. It is further alleged that speculation is often involved in manipulation in markets, which also affects prices, and in price gouging

during times of scarcity, in which the shortage may have been caused, in turn, by manipulation.

All of these afflictions of markets—distorted prices, volatility, bubbles, manipulation, and price gouging—impose considerable costs, some of which are deadweight losses that have no redeeming social benefit. However, these costs bear on an evaluation of speculation only if, first, speculation actually has these consequences and, second, speculation can be separated from the use of derivatives with all its benefits. It has been argued that speculation does not have these alleged consequences—that speculators actually serve to stabilize prices, reduce volatility, deflate bubbles, and generally facilitate production by enabling enterprises to manage risks better.[61] Furthermore, manipulation and price gouging are market practices that are not confined to speculation or derivatives, and, in any event, they can be controlled by existing market regulation without addressing speculation.

The first matter—that speculation afflicts the economy with various ills—is an empirical question for which the evidence is inconclusive at best. Second, even if speculation has some undesirable consequences, can the activities in question be separated from the beneficial uses of derivatives and eliminated without losing these benefits. Whether derivatives are being used in any given case for speculation or genuine hedging, for example, is a difficult judgment, which may require knowledge of a trader's entire portfolio or a company's complete financial structure. Further, the user of derivatives for hedging or other beneficial purposes must have a trading partner who is willing to take the other side of a contract. Speculators, therefore, may serve an essential role by increasing the number of willing trading partners, and this increase in number may also add liquidity to derivatives markets and also lower the costs of derivatives trading. Finally, as long as speculators do not harm others—this is seriously contested—perhaps they should be free to trade as they wish, no matter how foolish.

Suitability

Warren Buffett's warning that derivatives may be "time bombs" and "financial weapons of mass destruction" has been borne out in many well-publicized cases, of which Orange Country, California, and Procter & Gamble are among the best known. Jefferson County in Alabama, of which Birmingham is the county seat, narrowly averted bankruptcy in 2011 when it could no longer make payments on interest-rate swaps with a notional value of $5.4 billion that had been sold by J.P. Morgan (now JPMorgan Chase), among other banks, to cover $3.2 billion in bonds for a troubled new sewer system.[62]

A portion of these swaps, which at one time numbered 18, converted the original variable-rate loans into fixed rates, while the rest converted this debt

back to variable-rate loans. Not only did the swaps fail to protect against changing interest rates but the downgrading of two bond insurers triggered further interest-rate rises. Also included in the interest rates were the massive fees J.P. Morgan had levied, which were estimated to be double the norm. The fees were necessary, in part, to cover $8 million in bribes that J.P. Morgan had paid to secure its role in the deal. Although the country was the victim of massive corruption in its leadership (21 people were convicted), JPMorgan Chase was forced eventually to forgive about $1 billion of the debt, lower the interest rates on the remainder, and pay fines of $25 million to the Securities and Exchange Commission (SEC) and $50 million to Jefferson County. Separately the bank paid $722 million to the SEC for the $8 million in bribes. Jefferson County has been described as "a 'poster child' for all that can go wrong when municipalities start playing with unregulated derivatives peddled by Wall Street sharpies."[63]

In the early 2000s, the major banks were pushing derivatives, mainly interest-rate swaps, throughout the United States and Europe for all kinds of clients, including, in one case, a nunnery in Cassino, Italy. According to a television documentary "Money, Power & Wall Street," the young people selling these derivatives jokingly referred to themselves as "F9 monkeys," who merely entered a few numbers in computer programs and punched F9 on the keyboard to generate a price for the instruments being sold to clients. John Cassidy, a writer for the *New Yorker*, says in the documentary, "They're called investment bankers but they're effectively salesmen. Their job is to go out and sell the stuff that the bank is creating, just in the same way a pharmaceuticals company would have a very large sales force, would go around selling their latest version of whatever the particular drug of the moment is."

The suitability of a derivative or any financial instrument is a complex judgment involving, first, its efficacy in achieving a desired aim and, second, the acceptability of the risks it poses. In short, will the derivative actually do what is intended, or at least have a reasonable likelihood of doing so? And are the risks of using this instrument understood and correctly evaluated? Most cases of unsuitability involve the latter concern because derivatives not only contain an element of risk—it is one side of a bet, after all—but it also introduces new risks. An interest-rate swap might produce a loss if interest rates move in a certain direction, for example, but that is the direct risk embedded in the contract. However, the user faces indirect risks from many other sources.

First, a user may fail to understand adequately how a derivative works and the factors that can affect its working. For example, the credit default swaps sold by AIG before the financial crisis allowed users to demand collateral from the company as the insured securities lost value before any default. AIG executives were apparently unaware of this possibility, and meeting the demands

that were made led to a serious shortage of cash. Second, the risks in a derivative may be seriously underestimated and hence mispriced. This possibility is greatly increased by the complexity of many derivatives and the sophisticated mathematics that they employ. AIG considered the probability of default in the securities it insured with CDSs to be so low that it failed to set aside reserves to cover the potential claims. This failure raised the prospect of default on the swaps, which would have had repercussions for the holders' trading partners. Third, derivatives introduce the risk that the counterparties to the contract may be unable to perform due to their own insolvency or bankruptcy. More generally, a derivative, like any contract, may become unenforceable for unforeseen reasons, including a natural disaster or a legal barrier, such as the lack of authority to enter into a contract.

Further, a firm may fail to keep adequate oversight of personnel responsible for handling derivatives, with the result that the risks are not properly managed. In particular, inadequately supervised personnel may step over a line from legitimate hedging to speculation. This occurred not only at AIG, where the London-based Financial Products unit operated without adequate supervision, but also at JPMorgan Chase in its $6.2 billion dollar loss in oversized derivatives trading by the so-called London Whale, who was able to hide information and alter the monitoring system. The collapse of Barings Bank in 1995 and the 4.9 billion euro loss at Société Générale in 2008 resulted from the activities of unsupervised rogue derivatives traders. The bets by Nick Leeson at Barings Bank on the direction of the Japanese stock market were also undone by a natural disaster, the Kobe earthquake, which caused prices to fall unexpectedly.

The factors that can make a derivative unsuitable for a user are numerous and not easily identified, except perhaps in hindsight, and even then it may be difficult to assign responsibility between the buyer and the seller. Did Merrill Lynch take unconscionable advantage of Orange County officials, or Bankers Trust of Procter & Gamble executives, or were these buyers foolishly trying to speculate? Furthermore, how much care is a seller obligated to take in dealing with a foolish buyer—or a sophisticated one for that matter? Lloyd Blankfein defended the conduct of Goldman Sachs before Congress for selling mortgage-backed securities to German banks that his firm was betting against by saying, "These are professional investors who want this exposure."[64] The message was clear: the buyers of these securities knew what they were doing and should be allowed to make mistakes. Indeed, making money on Wall Street is done, in part, by exploiting one's own superior judgment by taking advantage of other's mistakes.

However, even to sophisticated investors, some degree of disclosure or transparency is owed, not only about material information on the securities

themselves but also of any conflicts of interest the seller may have. In the Goldman Sachs's transaction, it was not disclosed that the mortgage securities being packaged were chosen by the trader on the other side of the deal or that the firm was also taking an opposing position. Further, investors vary in their sophistication and may be reasonably relying on the seller for advice as well as a product. Orange County and Procter & Gamble are not investment banks with the sophistication of Merrill Lynch or Bankers Trust, and they no doubt believed that they were paying for good advice as well as the interest-rate swaps they were sold. Moreover, any manufacturer has a moral obligation—as well as a legal duty—to sell products that are free of known defects, and so is the same not true for financial products?

The 2010 Dodd–Frank Wall Street Reform and Consumer Protection Act empowers the Securities and Exchange Commission and the Commodities Futures Trading Commission to create new rules for some derivatives, mostly swaps. As of May 2013, these rules have not been formally adopted, but they exist in draft form. Many of the risks from derivatives have been addressed by seeking to force more transactions into organized exchanges, where contracts are standardized, prices are known, and payment is assured. Other rules require Wall Street firms to provide buyers with "material information" about the composition of derivative products and the risks they pose, as well as any conflicts of interest, and to confirm that buyers have an adequate capacity to evaluate the instruments and adequate risk management systems in place. These regulations address only the supply side of the equation, however, and steps must also be taken by users of derivatives on the demand side to employ derivatives for legitimate purposes and not for mere speculation.

High-frequency trading

At 2:42 in the afternoon of May 6, 2010, the New York Stock Exchange experienced a rapid drop in stock prices. Already down 300 points for the day, the Dow Jones Industrial Average plunged another 600 points for a 9 percent or $1 trillion loss of value, only to rebound within 30 minutes. During this time, prices of individual stocks gyrated wildly, with Accenture falling from $40 to 1 penny and Sotheby's rising from $34 to $99 999.99. Labeled the "flash crash," this traumatic event has never been fully explained,[65] but a commonly cited culprit is high-frequency trading (HFT), also known as algorithmic trading. In HFT, massive computers programed with sophisticated proprietary software execute trades within a fraction of a second and often hold numerous positions for very short periods of time. Speed, not superior analysis, enables computers to make money at the expense of their slower, low-tech human counterparts.

Although HFT may be a destabilizing force, especially in already vulnerable markets, the main criticism of this recent controversial practice is its fairness to other investors and ultimately its social value. Is HFT merely another way of making a lot of money, perhaps at other's expense, or does it really make a valuable contribution to society? The practice may permit new kinds of manipulation in trading and confer other unfair advantages on firms that engage in it, but if HFT has considerable social value, then it may be possible to regulate the excesses and retain the benefits. However, the social value of HFT includes more than making markets more efficient; one must also consider the ability of markets to allocate capital and attract investors. If investments are made in milliseconds with a view only to quick gains, then we may end up with idle factories and unemployed workers. The same result may occur if substantial amounts of resources—both financial and human capital—are tied up in essentially unproductive activities. Further, little is gained if investors shun markets for fears that the game is rigged in favor of big-time players with expensive equipment and privileged access, which are denied everyone else. If HFT makes money largely at the expense of slow, low-tech traders, it must be appreciated that the losing sides to these trades may be the mutual funds and pension funds of ordinary people. However, high-frequency trading is already here, with momentous consequences for market operations, and, as *The Economist* magazine explains, "Doing nothing is like allowing Formula 1 drivers onto suburban streets."[66]

How HFT works

Stock trading has two parts: identifying a trading opportunity and executing the trade. Trade execution, which involves finding a trading partner and agreeing on a price, has been done traditionally in a physical space, an exchange, such as the New York Stock Exchange. In addition to buyers and sellers, exchanges need a matching mechanism or *matching engine* to determine which buyer and seller offers will be brought together to constitute a transaction. In the past, this function was served by market makers or specialists, who maintained an order book of submitted offers to buy and sell a particular stock and who stood ready to sell from their own holdings when there were no sellers, and similarly to buy in the absence of buyers. The assurance that one can quickly buy or sell at market prices is called *liquidity*. The compensation for market makers came from opportunities to exploit their knowledge of the market, including the bid and ask prices of buyers and sellers respectively. However, market makers were expected to avoid excessive exploitation and seek only reasonable compensation.

Today, maintaining an order book and matching buyers and sellers are done almost entirely by computers—the ones for the New York Stock

Exchange are housed in a nondescript 400 000-square-foot data center in Mahwah, New Jersey, 30 miles from the iconic Wall Street building. Traders whose own computers have access to these exchange computers can monitor order flow and submit their own orders almost immediately, with the times measured in fractions of a second. The time it takes to execute a trade is called *latency*, and so HFT reduces latency. Time is so critical that being in the same building as an exchange's matching engine confers a significant advantage—fiber optic cables from Chicago to New York are too slow—and so exchanges can also make money by renting space next to their own computers for those of trading firms in a process known as *co-location*. As if saving a few milliseconds were not enough, exchanges also permit some traders, for a fee, to have access to orders from other market participants a few more milliseconds before anyone else, which permits *flash trading*.

Quicker access to market information permits those with it to execute trades before others and so to exploit trading opportunities that may disappear in the blink of an eye. This capability is of little use, however, unless the computer programs or algorithms are also able to identify profitable trading opportunities within a few milliseconds. The programs, in turn, must be based on some market trend discernible from the data which is not only exploitable but also innovative, which is to say that it has yet to be discovered by others. Thus, HFT computer programs are vigilantly protected, as well as short-lived—of use only until others find the secret and begin to act on it. Although the two-tier market that is created by access to exchange computers, including co-location and flash trading, raise some ethical concerns, objections to HFT focus mainly on the use to which quick access is put. Put simply, how does HFT identify profitable trading opportunities from which to make money?

Uses of HFT

One use of HFT is to execute trades in ways that avoid the loss that occurs when large volumes are bought and sold in the market. An offer to buy, say, ten thousand shares of any stock will not only raise the price by exceeding the number being offered for sale at the current price, but other traders will spot the demand and buy themselves in anticipation of yet higher prices. This loss is known as *slippage*. Execution algorithms attempt to reduce the loss from slippage by breaking orders into smaller units and distributing them over time on a flexible schedule determined by market conditions. In addition to merely avoiding losses, HFT can also make money by acting like a traditional market maker and posting offers to buy and sell at prices that would, if accepted, make a small profit on the spread. Unlike a human market maker, however, a market-making algorithm can update prices continuously and with fine gradations in response to changing information. Further, HFT can be

utilized to engage in standard forms of arbitrage, one of which consists in identifying slight price discrepancies between the same securities in different exchanges. More sophisticated arbitrage algorithms spot price fluctuations in single securities that appear to be temporary abnormalities, such as deviations from the relatively slow-moving average price of a stock (known as the volume weighted average price, or VWAP).

These three types of HFT algorithms—execution, market-making, and arbitrage—differ little from conventional stock trading strategies except in the speed and precision that highly sophisticated technology makes possible. However, the possibility exists for traders to engage in market manipulation using HFT, although the extent of such manipulative practices is unknown. One example is that in 2010, Trillium Brokerage Services paid $2.26 million to settle charges brought by the Financial Industry Regulatory Authority (FINRA) for using HFT to manipulate the market for certain securities.[67] Specifically, FINRA charged that Trillium entered and quickly canceled orders in disproportionate volumes in order to create a false appearance of intense interest so as to induce others to trade at disadvantageous prices. Although Trillium used HFT, this kind of manipulation is essentially a classic "pump and dump" scheme that could be effected in the past by low-tech means.

Four newer, high-tech means of manipulation are *spoofing*, *smoking*, *stuffing*, and *algo-sniffing*.[68] Spoofing, which might describe Trillium's actions, consists in placing any order that the perpetrator has no expectation of filling for the purpose of inducing traders to place other orders that can be exploited. For example, a trader looking to buy might place a large volume of limit orders to sell at a high price that is unlikely to be accepted while also placing a limit order to buy at a low price. Although this kind of multiple-order placement might be used legitimately to ascertain accurate prices, it can also facilitate illegitimate market manipulation by inducing some gullible slow traders to note the large sell order, suspect a price drop, and accept the low buy offer. Smoking seeks to draw out slow traders with attractive offers that are subsequently revised so that the slow trader's order is ultimately matched to an offer with much less generous terms. Stuffing is simply entering and quickly canceling so many orders that slow traders become overwhelmed, resulting in temporary price discrepancies that faster traders can arbitrage. Finally, algo-sniffing consists of attempts to discover the strategy of other HFT computer programs and develop programs that take advantage of any weakness found. Any gains from algo-sniffing result from some algorithms outsmarting others: may the best algorithm win!

All of these manipulative practices enable HFT traders to profit at the expense of the slower, low-tech trading community. However, they are also generally illegal under existing securities industry regulation for all kinds of

trading (algo-sniffing may be an exception), so these opportunities for manipulation are not unique to HFT and need not pose barriers to its acceptance. The crucial question, then, is the impact of HFT on securities markets. Overall, is HFT of social value in creating greater efficiency and allocating capital for greater wealth creation? Or does putting Formula 1 drivers on suburban streets create unacceptable dangers?

Evaluation of HFT

The arguments in favor of allowing HFT are that it makes markets more efficient by producing greater *liquidity* (the volume of order ensures that securities can be bought and sold at accurate prices), securing more *accurate pricing* (the number and frequency of trades facilitates price discovery and arbitrages away any price differences), and lowers *trading costs* (the market-making function reduces the bid-ask spread). These are not inconsiderable benefits, but they are already present in conventional markets with slow, low-tech traders. It is not clear how much of these beneficial qualities HFT adds to markets and how much the market needs the additional benefits. If, indeed, HFT poses some risks to markets, are gains worth the cost?

First, the liquidity claim is questionable inasmuch as the assurance it provides is critical mainly in times of crisis, such as the flash crash of May 6, 2010, when even HFT came to a halt. The liquidity provided by HFT might be like a parachute that works except when a plane goes down. More importantly, high-frequency traders, unlike traditional market makers, whose service provides liquidity in a crisis, are not obligated to trade when buyers or sellers are scarce. They can simply pull the plug on their computers, as commonly occurs in troubled times. The replacement of human market makers with computerized matching engines thus removes an important source of liquidity that HFT does not fully replace. However, even traditional market makers may not be adequate in a crisis. The fact that some stocks traded at a penny and others a penny short of $10 000 in the flash crash is revealing because market makers with an obligation to quote prices may offer safe *stub quotes* at the lowest or highest permitted values, which are sure not to be accepted, simply in order to comply with regulations.

Second, accurate pricing is generally secured, in part, by traditional arbitrage, which does not require very fast computation and is based, in any event, on information about market prices rather than order flow. Price discrepancies in a market or between markets will be quickly corrected by traditional arbitrage, and any seconds (or milliseconds) gained by HFT are probably of little incremental value. Because of the fragmentation of markets—which has resulted from relaxed market regulation aimed at developing more competition—the ability to arbitrage across many different markets is more

critical, and for this task HFT is especially effective. However, accurate pricing is ultimately dependent on good analysis of the fundamentals of a security, and HFT, which is based solely on market trading information, contributes virtually nothing to this vital task.

Third, the reduction of bid-ask spreads may wring certain costs out of trading—which have traditionally been a source of revenue for market makers—but HFT, especially when combined with flash trading, may raise costs for traders without high-tech equipment and privileged access. One benefit of quicker access to order flow is to spot large trades and jump in ahead of them, which is called frontrunning. Some allege that HFT is simply computerized frontrunning.[69] The result of such frontrunning is more slippage in markets, which drives large institutional investors to use execution algorithms, which break orders into smaller units that are traded over a period of time. Such defensive measures produce no added value, and the costs are deadweight losses to the economy. An alternative for institutional investors is to trade large blocks in private exchanges known as *dark pools*. These have the drawback that information about trades and prices is kept from the market, which results in decreased transparency and hence less market efficiency.

Furthermore, the reduction of bid-ask spreads may be offset by the ability of HFT to discover the reserve prices of buyers and sellers. As an example, if a seller asks $40 for a stock but is willing to accept $39.50 (the reserve price or limit), then a high-frequency buyer can issue rapid bids for a small number of shares at prices that descend down from $40, all of which will be accepted by the seller until the reserve price of $39.50 is reached. At that point, a large order to buy the stock at $39.51 will be entered and accepted. The spread between $40 and $39.50 represents a range in which a deal can be struck between two traders (each will consider the trade to produce a gain), but the executed price will determine the distribution of the gain between them. At $39.51, the gain goes almost entirely to the high-frequency trader, who has taken advantage of a capability that HFT makes possible. In this case, was the seller merely outsmarted, or was the advantage taken by the buyer unfair?

Risks of HFT

The greatest concerns about HFT are the risks it poses for both firms and the markets. In addition to the flash crash of May 6, 2010, Knight Capital lost $440 million in less than 45 minutes on August 1, 2012.[70] Three months earlier, in May 2012, the IPO of Facebook was delayed by a computer glitch at NASDAQ, which caused many computer-driven trading programs to enter and cancel many faulty orders.[71] UBS reportedly lost $350 million in the fiasco and Knight Capital, $35.4 million.[72]

HFT algorithms are engineered products that allow little human intervention once a switch is turned on, and, given their complexity, the fast speed,

the volume of trades, and their interaction with other computers, the results can be unanticipated and occasionally disastrous. In addition, markets themselves are fragmented and volatile in the best of times, and so the added volume of HFT introduces an additional element of uncertainty and the potential for a complete system breakdown. One study concludes that in 2010, HFT constituted 56 percent of equity trades in the US and 38 percent in Europe,[73] and other commonly cited estimates are between one-half and three-quarters of all stock trades. Evidence suggests that the higher volume of HFT creates dangerous volatility beyond that ordinarily based on other factors.[74] Moreover, other studies indicate that HFT trades tend to be highly correlated—that is, make the same kind of trades—which may further increase volatility and, with it, systemic risk.[75]

The risks of HFT are significant but not unmanageable. Other engineered products, such as bridges and airplanes, pose risks, especially at early stages, which subsequently have been handled satisfactorily. Many means are available for both better engineering practice[76] and successful market regulation.[77] A Federal Reserve report notes that in the past, when securities were traded in a "physical, paper-based environment," every step in the trading process was overseen by a person who could detect any errors. The report concludes, "High-speed trading requires a similar level of monitoring, but it needs to happen a lot faster—ideally, there should be automated risk controls at every step in the life cycle of a trade with human beings overseeing the process."[78]

Conclusion

The universally accepted goal of "fair and orderly markets" is difficult not only to define but also to maintain. Market activity is so diverse that simple definitions of fairness and orderliness scarcely suffice, but the constant innovation in finance markets makes its maintenance a constant struggle. Since so much money can be made in markets, participants are continually pushing against ethical and legal boundaries and engaging in new activities that have yet to be evaluated and addressed by either ethics or law. This task is further complicated by intervals of deregulatory sentiment and renewed pro-regulatory reform movements, both punctuated by periodic crises. The only certainty is that the challenge of ensuring fair and orderly markets will always be with us.

Notes

1. Parts of this section are derived from Hersh Shefrin and Meir Statman, "Ethics, Fairness and Efficiency in Financial Markets," *Financial Analysts Journal*, 49 (November–December 1993), 21–29; and Eugene Heath, "Fairness in Financial

Markets," in John R. Boatright (ed.), *Finance Ethics: Critical Issues in Theory and Practice* (New York: John Wiley & Sons, Inc., 2010).

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3. The example is taken from Anthony Kronman, "Contract Law and Distributive Justice," *Yale Law Journal*, 89 (1980), 472–479.
4. Frank H. Easterbrook and Daniel R. Fischel, *The Economic Structure of Corporate Law* (Cambridge, MA: Harvard University Press, 1991), p. 254.
5. Andrew Ross Sorkin, "Just Tidbits, or Material Facts for Insider Trading?" *New York Times*, November 29, 2010.
6. See, for example, Stephen J. Nelson, "European Regulators Ramp Up Insider Trading Enforcement," *Traders Magazine Online News*, April 12, 2010.
7. Stephen M. Bainbridge, *Securities Law: Insider Trading* (New York: Foundation Press, 1999).
8. The most prominent of these scholars is Henry G. Manne in *Insider Trading and the Stock Market* (New York: The Free Press, 1966).
9. *SEC v. Texas Gulf Sulphur*, 401 F.2d 19 (1987).
10. *Chiarella v. U.S.*, 445 U.S. 222 (1980); *Dirks v. SEC*, 463 U.S. 646 (1983); *U.S. v. Chestman*, 903 F.2d 75 (1990); *U.S. v. Willis*, 737 F. Supp. 269 (1990); and *U.S. v. O'Hagan*, 521 U.S. 642 (1997).
11. Manne, *Insider Trading and the Stock Market*. See also Henry G. Manne, "In Defense of Insider Trading," *Harvard Business Review*, 44(6) (1966), 113–122.
12. This point is argued in Jennifer Moore, "What Is Really Unethical about Insider Trading?" *Journal of Business Ethics*, 9 (1990), 171–182.
13. *Carpenter et al. v. U.S.*, 484 U.S. 19 (1987).
14. Peter Drucker, "To End the Raiding Roulette Game," *Across the Board*, April 1986, p. 39.
15. Michel T. Halbouty, "The Hostile Takeover of Free Enterprise," *Vital Speeches of the Day*, August 1986, p. 613.
16. See Michael C. Jensen, "The Takeover Controversy," *Vital Speeches of the Day*, May 1987, pp. 426–429; Michael C. Jensen, "Takeovers: Folklore and Science," *Harvard Business Review*, November–December 1984, pp. 109–121.
17. Jensen, "Takeovers"; Michael C. Jensen and Richard S. Ruback, "The Market for Corporate Control: The Scientific Evidence," *Journal of Financial Economics*, 11 (1983), 5–50; and Douglas H. Ginsburg and John F. Robinson, "The Case against Federal Intervention in the Market for Corporate Control," *The Brookings Review*, Winter–Spring 1986, pp. 9–14.
18. F. M. Scherer, "Takeovers: Present and Future Dangers," *The Brookings Review*, Winter–Spring 1986, pp. 15–20.
19. These points are made in Scherer, "Takeovers," pp. 19–20.
20. Hostile takeovers are conducted less frequently by means of a proxy contest. A friendly merger or acquisition generally results from a proposal to the board of directors of the target corporation, which is submitted in due course to a vote

by the shareholders. Shareholders are not asked to tender their stock, but if the takeover is approved, their shares are exchanged for some package that typically includes shares of the acquiring corporation or a newly created corporation. Even "friendly" takeovers that are approved by the board of directors may involve heated proxy contests for shareholder votes.

21. For a discussion of coercion in tender offers see John R. Boatright, "Tender Offers: An Ethical Perspective," in W. M. Hoffman, R. Frederick, and E. S. Petry Jr (eds), *The Ethics of Organizational Transformation: Mergers, Takeovers, and Corporate Restructuring* (New York: Quorum Books, 1989).
22. Section 13(d) requires a similar statement within ten days after any party acquires more than 5 percent of a corporation's stock. This statement provides notice of a possible takeover bid and facilitates an orderly response.
23. Philip L. Cochran and Steven L. Wartick, " 'Golden Parachutes': A Closer Look," *California Management Review*, 26(4) (1984), 111–125. A 1982 study by Ward Howell International reported that the number of Fortune 1000 companies with golden parachutes doubled between 1979 and 1982 to 25 percent. Ward Howell International, Inc., *Survey of Employment Contracts and Golden Parachutes among the Fortune 1000*, company report, 1982. A study by Hewitt Associates in 1987 found that the figure among Fortune 100 industrial companies was 46 percent. Hewitt Associates, *Survey of Employment Contracts, Change-in-Control Agreements and Incentive Plan Provisions*, company report, June 1987.
24. A 2012 study reported that among 2000 of the largest US corporations, the percentage with golden parachutes rose from 50.44 in 1990 to 77.65 in 2006. Lucian A. Bebchuk, Alma Cohen, and Charles C. Y. Wang, "Golden Parachutes and the Wealth of Shareholders," John M. Olin Center for Law, Economics, and Business, Harvard University, Discussion Paper 683, October 2012.
25. Protection against job losses following a takeover has been extended by some companies to all employees in the form of "tin parachutes." See Diana C. Robertson, "Corporate Restructuring and Employee Interests: The Tin Parachute," in Hoffman *et al.*, *The Ethics of Organizational Transformation*.
26. Michael C. Jensen, "The Takeover Controversy: Analysis and Evidence," in John C. Coffee Jr, Louis Lowenstein, and Susan Rose-Ackerman (eds), *Knights, Raiders, and Targets: The Impact of the Hostile Takeover* (New York: Oxford University Press, 1988), p. 340.
27. One study reports that the announcement of golden parachutes raises the price of a company's shares by 3 percent, although this price rise could be due to the perception that the company is a takeover target. R. Lambert and D. Larker, "Golden Parachutes, Executive Decision-Making, and Shareholder Wealth," *Journal of Accounting and Economics*, 7 (1985), 179–204.
28. 26 USC §280G denies the corporation a tax deduction for compensation above a certain amount, and 26 USC §4999 imposes a further tax on individuals who receive this excessive compensation.
29. Dodd–Frank Wall Street Reform and Consumer Protection Act, Public Law 111-203, sec. 951.

30. Peter G. Scotese, "Fold Up Those Golden Parachutes," *Harvard Business Review*, March–April 1985, p. 170.
31. Cochran and Wartick, "'Golden Parachutes'." p. 121.
32. Scotese, "Fold Up Those Golden Parachutes," p. 168.
33. Bebchuk, Cohen, and Wang, "Golden Parachutes and the Wealth of Shareholders."
34. Jensen, "The Takeover Controversy," p. 341.
35. J. Gregory Dees, "The Ethics of 'Greenmail'," in William C. Frederick and Lee E. Preston (eds), *Business Ethics: Research Issues and Empirical Studies* (Greenwich, CT: JAI Press, 1990), p. 254.
36. These arguments are developed and evaluated in Dees, "The Ethics of 'Greenmail'."
37. Different classes of stock can carry different voting rights and different dividends, but such differences are known in advance and accepted by all stockholders.
38. Quoted in Robert W. McGee, "Ethical Issues in Acquisitions and Mergers," *Mid-Atlantic Journal of Business*, 25 (March 1989), 25.
39. Some argue that managers should never attempt to defend against a takeover but allow the shareholders to decide. However, management generally has better information than shareholders and may be in a better position to determine what is in the shareholders' interests. See Frank H. Easterbrook and Daniel R. Fischel, "The Proper Role of a Target's Management in Responding to a Tender Offer," *Harvard Law Review*, 94 (1981), 1161–1204.
40. John C. Coffee Jr, "Regulating the Market for Corporate Control: A Critical Assessment of the Tender Offer's Role in Corporate Governance," *Columbia Law Review*, 84 (1984), 1145–1296.
41. Roger J. Dennis, "Two-Tiered Tender Offers and Greenmail: Is New Legislation Needed?" *Georgia Law Review*, 19 (1985), 281–341.
42. *Paramount Communications, Inc. v. Time Inc.*, 571 A.2d 1140 (1990).
43. In *Paramount*, the Delaware State Supreme Court cited a previous decision in which it had held that considering a takeover's "effect on the corporate enterprise" includes such concerns as "the impact on 'constituencies' other than shareholders (i.e. creditors, customers, employees, and perhaps even the community generally)." *Unocal Corporation v. Mesa Petroleum Co.*, 493 A.2d 946, 955 (1985).
44. See Eric W. Orts, "Beyond Shareholders: Interpreting Corporate Constituency Statutes," *George Washington Law Review*, 61 (1992), 14–135.
45. Roberta S. Karmel, "The Duty of Directors to Non-shareholder Constituencies in Control Transactions—A Comparison of U.S. and U.K. Law," *Wake Forest Law Review*, 25 (1990), 68.
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52. Aristotle, *Politics*, 1259a.
53. Lynn A. Stout, "Derivatives and the Legal Origins of the 2008 Credit Crisis," *Harvard Business Law Review*, 1 (2011), 1–38.
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59. Nicholas Kaldor, "Speculation and Economic Stability," *Review of Economic Studies*, 7 (1939), 1–27, 1.
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64. Andrew Ross Sorkin, "Wall Street Ethos Under Scrutiny at Hearing," *New York Times*, January 13, 2010.
65. The official account is *Findings Regarding the Market Events of May 6, 2010: Report of the Staffs of the CFTC and SEC to the Joint Advisory Committee of Emerging Regulatory Issues*, September 30, 2010.
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67. "FINRA Sanctions Trillium Brokerage Services, LLC, Director of Trading, Chief Compliance Officer, and Nine Traders $2.26 Million for Illicit Equities Trading Strategy," FINRA News Release, September 13, 2010.
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